

THE

Country

GUIDE

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NOVEMBER, 1952



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Illustrated above: State Commander V-8 4-door sedan.

White sidewall tires, chrome wheel discs—and glare-reducing tinted glass—available at extra cost.

Own a smartly styled Studebaker and get marvelous gas mileage

YOU START cutting your driving costs right away, once you're the proud owner of a trim, sleek new Studebaker.

There's no power-wasting excess weight in a Studebaker. As a result, you save gas every mile you click off.

How big these savings can be was demonstrated by the Studebakers com-

peting in this year's Mobilgas Economy Run. A Studebaker Champion 6 and Commander V-8 finished first and second in actual gas mileage to top a field of 23 standard size cars.

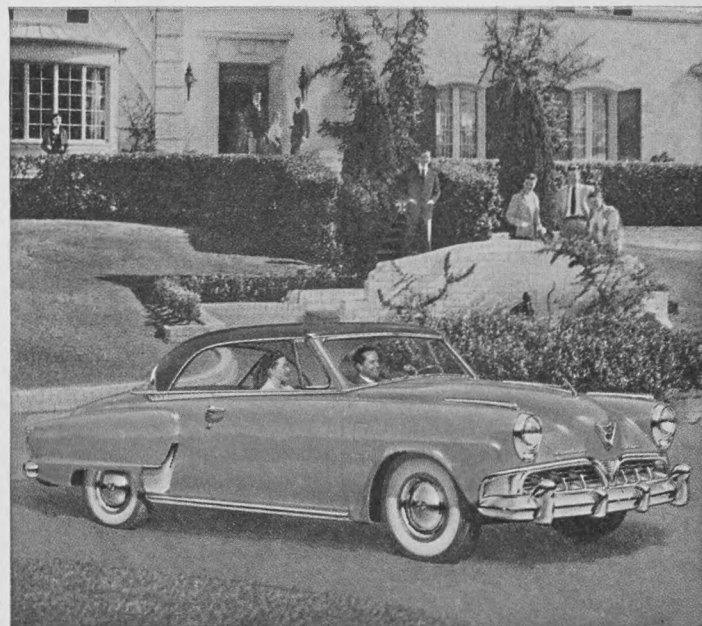
The Studebakers and most contenders used Overdrive—available, like Studebaker Automatic Drive, at extra cost.



Studebaker

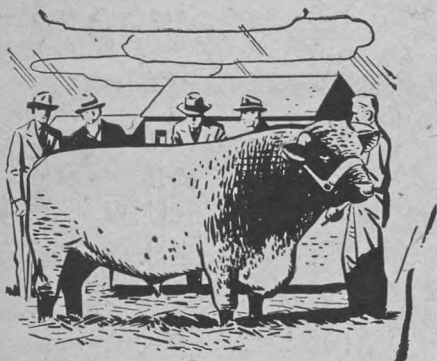
One hundred years of progress
on the roadways of the world

The Studebaker Corporation of Canada, Limited,
Hamilton, Ontario



Excitingly new! The jet-streamed Starliner "hard-top"! It's available as a Commander V-8 or as a Champion 6 in the low price field.

Thousands of Farmers are on the move



Each year in Canada, thousands of farmers are now attending fairs, conventions, and farm meetings, travelling from one province to the other, from one end of Canada to the other, and often visiting foreign countries. Today, many are travelling by plane, more by cars, buses and trains, and some by water. With this overall increase in travelling, one of the main necessities is money. It is always a personal satisfaction to have enough money in one's wallet to meet obligations on the way. Wherever people travel, there will always be cases of losses, and if large amounts are being carried, the worry of loss. The best and safest place for money is in your local Imperial Bank branch.



To meet ordinary travel expenses it's a good idea always to carry Imperial Bank travellers cheques. Imperial Bank travellers cheques can easily be cashed at any of the branches which are located in all principal cities, and at hotels, stores and many other places of business.



Your local manager can give you information on where the many Imperial Bank branches are located. Travellers cheques can be had in various denominations.



Bank at
IMPERIAL
"the bank that service built"
IMPERIAL BANK OF CANADA



[National Film Board Photo.]

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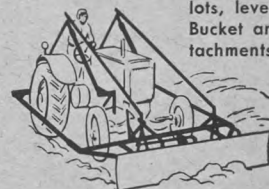
This Tool Knows No Off Season



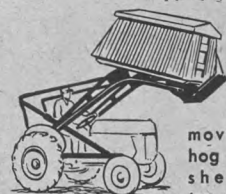
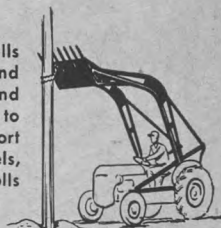
NEW IDEA-HORN (formerly Horndraulic) Loader • Stacker Dozer

There are ten easy-on attachments that keep the NEW IDEA-Horn Hydraulic Loader working all year 'round: Manure Bucket; Pitch Control; Dirt Bucket; Snow Scoop; Angle Dozer Blade; Straight Dozer Blade; Push-off Stacker; Buck Rake; Loader Boom; Grapple Fork.

Dozer Blade moves dirt, snow, sand, gravel. Builds terraces, cleans barn-lots, levels land. Dirt Bucket and Scoop attachments.



Sets poles, pulls posts, moves and dumps stones and stumps. Handy to lift and transport milk cans, barrels, feed sacks, rolls of fencing, etc.



Makes job of moving portable hog houses, range shelters, feed troughs, other bulky portable equipment, easy.



MAIL COUPON TO NEAREST DISTRIBUTOR

NEW IDEA SUBSIDIARY
FARM EQUIPMENT CO. AVCO MANUFACTURING CORPORATION

Send free literature as checked:

- ☐ New Idea-Horn Loaders
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Address _____

Allied Farm Equipment, Ltd.
Sutherland Ave. at King
Winnipeg, Manitoba
Kern Farm Equipment, Ltd.
1374 Broad St., Regina, Sask.
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PRINCESS Annual BIRTHDAY SALE Offer

LOW PRICES PLUS 5% BIRTHDAY GIFT DISCOUNT

on anything you buy from this ad only during the next 30 days

NEW NORCO LIGHTING PLANTS
2000 watt, 110 volt A.C., 60 cycle
Exclusive at Princess
Just received—now at a tremendous saving! A smashing opportunity to deliver many of the current top quality, low priced emergency use, exactly as illustrated, powered by a dependable Wisconsin Engine, ready to go. Manufacturers' guarantee—generator, year, 90 days. Regular value, \$580.00. **Birthday Priced \$335.00**
Generator, base and pulley only.

LET THIS WELDER PAY FOR ITSELF
MAKE IT WORK FOR YOU!
ONLY \$25.00 DOWN
PRINCESS SPECIAL WELDER
Time Payment Plan
NOW EVERYONE CAN AFFORD TO PURCHASE THE NEW PRINCESS "252" ARC WELDER WITH OUR NEW TIME PAYMENT PLAN. ONLY \$25 DELIVERS THE WELDER TO YOUR STATION.
HERE'S HOW IT WORKS:
ORIGINAL COST \$125.00
CASH PAYMENT 25.00
BALANCE 100.00
(Plus small carrying charges)
PAYABLE IN 12 EASY MONTHLY PAYMENTS
DON'T DELAY—TAKE ADVANTAGE OF THE SPECIAL OFFER TODAY!
Stop costly repair bills with the New Princess "252" ARC WELDER. Features low speed-high output reactor coil for even arc. Stationary or portable 200 amps, continuous rating, 250 amps, intermittent rating, 24-40 Volt D.C., 2,600 R.P.M., adaptable to all makes and models of engine driven power. Light weight, compact, easy to handle. Oversized lifetime guaranteed seal. Light weight, compact, easy to handle. Allows the use of low heat control for light work, 10 H.P. or more required. Tractor drive ideal. Complete with mask, flat or V-belt pulley, cable, 10 lbs. rods, holder, INSTRUCTION BOOK. Ready to use. Other welders cannot handle any type and size of job on farm! No other welder will last a year and even at twice the price. **ONE YEAR MECHANICAL GUARANTEE. 10 DAY MONEY BACK GUARANTEE.**

THOUSANDS OF SATISFIED USERS HERE'S WHAT THEY SAY:
ORIGINAL LETTERS ON FILE
Mr. R. H. Langenburg, Sask.
It seems there's hardly a day goes by that I don't use my Princess "252" welder. It's worth it in gold.
Mr. A. D. R. Wallaceburg, Ont.
"The Princess, '252' Arc Welder I bought from you last spring has well proven its value. I find it one of the most easy machines to use and will work as good as new after using many dollars more."
Mr. M. E. Fawcett, Alta.
I received a Princess "252" welder from you about a month ago. It's the best investment I've ever made.
Mr. H. K. Grahamsdale, Man.
"The '252' Princess Arc Welder is a wonderful machine. It does a very good job of welding any piece of farm equipment right on the spot."

NOWHERE ELSE CAN YOU BUY THE NEW PRINCESS "252" WELDER
300 amps, continuous welding. Self-cooling. 6,000 R.P.M., 400 amps. Intermittent rating, using R1 Generator. Can be used for stationary or portable welding. Dial type amp. control. 12 H.P. engine required. 10 lbs. rods, holder, cable and complete welding instruction book.
ONE YEAR MECHANICAL GUARANTEE—10-DAY MONEY BACK GUARANTEE. Complete as illustrated, ready to operate.
Birthday Priced \$139.50

SPECIAL 5% DISCOUNT CERTIFICATE
DISCOUNT on any items purchased from this ad.
1. Four order must be accompanied by this special certificate.
2. Offer good on orders post marked not later than midnight, December 15, 1952.
Just total your purchases. Subtract 5% discount. Balance with your order. Remember coupon must be enclosed with your order to receive 5% discount.

IT'S EASY TO MAKE YOUR OWN LABOR SAVING FARM EQUIPMENT EXCELLENT HYDRAULIC VALUES
New—can be used on all types engines where automatic increase and decrease of engine is required.
Regular, \$45.00. **Birthday Priced \$26.25**
HYDRAULIC CYLINDERS - AIR OR OIL
Large supply of new labor-saving, economical hydraulic equipment in many types and sizes. Use these positive, highly efficient, smooth pressure hydraulics on lifts, positioning, brakes, auto frame alignment, etc.
ITEM NO. 42—Double action hydraulic cylinder, 1,000 P.S.I. Based lift capacity with 1,000 P.S.I. line pressure is 12,500 lbs. Wt. 30 lbs. A real buy. **\$35.75**
ITEM NO. 31—Double action cylinder, 3/4" bore, 11" stroke. Lift 9,600 lbs. with 1,000 P.S.I. line pressure. Wt. 15 lbs. **\$24.75**
ITEM NO. 32—Double action, 1 1/2" bore, 8" stroke. Lift 1,760 lbs. with 1,000 P.S.I. line pressure. Wt. 4 lbs. A \$45 value. **\$12.05**
ITEM NO. 18—Double acting cylinder, 1 1/2" bore, 27" stroke. Lift 1,760 lbs. with 1,000 P.S.I. line pressure. Wt. 6 lbs. **\$14.25**
ITEM NO. 15—Double acting hydraulic cylinder, 1 1/2" bore, 12" stroke. Lift 1,760 lbs. with 1,000 P.S.I. line pressure. Wt. 12 lbs. **\$12.45**
HIGH PRESSURE FITTINGS for cylinders and valves available at 55¢ ea. for 3/8" pipe and 75¢ ea. for 1/2" pipe.

ARMY SURPLUS METAL BOXES
Sleeve-type jacks. Base operated, fully enclosed. Telescoping tubes. Hardened bearings for smooth operation. Fits under low axle, gives ample lift. Compact. Handle folds. Lifting 1,330 lbs. to 18 1/2" long x 6 1/2" wide. **Birthday Priced \$3.75**
Suitable for tool chests, storage, etc. Strong and durable construction. 2 1/2" long x 9" deep x 5" wide. **Birthday Priced \$1.75**
18" long x 6 1/2" deep x 9" wide. **Birthday Priced \$1.25**

PRINCESS AIR COMPRESSOR
Lowest price in Canada! High pressure type delivers large volume of air for heavy duty service. Greasing and painting tires, greasing and painting heavy duty capacitor motor. Piston type. 2" bore compressor with built-in air filter. High strength alloys, pre-lubricated. 2,100 cubic feet capacity. Complete with automatic switch, check valve, safety valve, gauge, shut-off valve, 20 ft. air hose, tire chuck. On ball bearing wheels and rubber tires. Same unit with 1/4 H.P. gas engine. **\$139.00**
On ball bearing wheels and rubber tires. Same unit with 1/4 H.P. gas engine. **\$105.00**
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LOGAN HEAVY DUTY HYDRAULIC PUMP
ITEM 29—For operating hydraulic cylinders and hydraulic motors on tractors, trucks, etc. Delivers 10 G.P.M. at 1,000 R.P.M. P.S.I. using 5 H.P. Has 3/4" inlet, 1/2" outlet, 3/4" shaft with flat and keyway for direct or pulley drive. Flange with 4 bolt holes for convenient mounting. Ship. 5 1/2" width. Overall dimensions: 7" length x 5 1/2" height x 5 1/2" width. **\$105.00 value. Birthday Priced \$33.50**
ELECTRICALLY OPERATED "HYDRAULIC PUMP"
Eliminates such problems as Power Take-Off, Drive Shafts, Universal Joints. Saves space, operating in 1,000 lbs. pressure. In smooth, quiet operation. Suitable for direct coupling. Pedestal type mount. Delivered with 1/2" pipe threaded inlet and outlet. 3 H.P. Clockwise rotation. Regular Price, over \$100.00. **FULLY GUARANTEED. Birthday Priced \$38.50**
PESCO GEAR TYPE HYDRAULIC PUMP
ITEM No. 160—Compact. Powerful. Reliable. Designed for belt drive from fan belt, power take-off, drive pulley, electric motor or small gas engine. Suitable for direct coupling. Pedestal type mount. Delivered with 1/2" pipe threaded inlet and outlet. 3 H.P. Clockwise rotation. Weight, 6 lbs. **Birthday Priced \$26.50**

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Successful Farm Families

Five families in Alberta have been named Master Farm Families

THE Alberta Department of Agriculture, intent on emphasizing the advantages of farming and the dignity and satisfaction of farm life, selected five of the 32 families

nominated by neighbors for a Master Farm Family award. Those pictured below were chosen and received an award of \$1,000, an engraved plaque and a name plate for the farm entrance.

John D. Lambert left the dry plains of west central Alberta 21 years ago. He and his wife developed a farm and a way of life in the grey-wooded and swampy soil at Manning, north of Grimshaw, in the northern reaches of the Peace River district. Here they are raising their six children and glorying in a productive farm.



The Jesse Cole farm is located near the Lacombe-Stettler highway at Clive. It started out to be a grain farm, but the inclinations of three sons is shifting the emphasis to livestock. The foundation is laid for a purebred Hereford herd, 12 brood sows are kept, and extensive grass crops are grown for livestock feed and soil improvement.

John Skrypitsky, his wife, and five children operate a section farm at Mundare. Last year they moved into their fine new home, bringing to fruition a dream Mrs. Skrypitsky has nurtured since the first quarter was purchased in 1929. Machinery and buildings had to come first.



E. R. Lewis, Winterburn, scuffed his small-boy boots on the streets of Calgary and dreamt of being a farmer. In 1932 he and his wife, moved onto a wooded half-section near Edmonton. Today the largest seed potato crops in Alberta are harvested on the farm. (See The Country Guide, Oct., p. 11.)



J. H. Schmalz and his family operate a large grain and livestock farm at Beiseker. The farm is operated as a three-way partnership between Mr. Schmalz and sons Norman (standing, left) and Clarence (standing, right) Gregory (next to Clarence) is on the farm, but the other children live in the city, though the farm is home to all.



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What's Nickel got to do with television?



"A great deal, son. In fact, if it weren't for nickel there wouldn't be any television today. You see, some of the working parts of a television set can't be made without special types of nickel alloys. And others just wouldn't work as well as they do if nickel weren't used."



"In the cathode ray tube, for example, there is what is known as an 'electron gun'. Its job is to fire a stream of electrical energy on to the viewing screen, where you see it in the form of pictures. Parts of that 'gun' can't be made without nickel. Then, too, there are other types of tubes and parts inside the set for which nickel is the best material."



"It's worth remembering, son, that metals have to meet unusual requirements for television. Some must be highly magnetic, some non-magnetic. Others must expand or contract in special ways. Fortunately, metallurgists have developed nickel alloys that meet such needs. And today, we can be sure, nickel scientists are keeping pace with new ideas for the future."

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by ANGUS FRANKLIN MacIVER
with BERNICE REDPATH MacIVER



When Rabies Strikes

THE Health of Animals Division of the Canada Department of Agriculture has been much in the public mind due to the outbreak in Saskatchewan of foot-and-mouth disease. This is another story of their continuous battle with contagious diseases in animals; how they fought rabies a year ago in Churchill, Manitoba.

To trappers in this area, dogs are what horses used to be on prairie farms, work animals and a means of going to and from town. As well, a number of dog teams are kept for pleasure, and pet dogs, ranging in size from a toy spaniel to a Doberman pinscher are numerous. During all but the winter months the work dogs are tethered at least 200 yards from the nearest dwelling, consequently they form an uneven, spotty fringe around the townsite. Pet animals, in most cases, have complete freedom at all times.

I lost three of my five-dog team from the dread disease. The first one died after a four-day illness during which he refused to eat, was continuously on the move whenever I saw him and snapped at every bird that came near. When I caught his chain and pulled him toward me, he bared his teeth.

On the evening of the fourth day, I found him dead. An Indian, who passed my dogs several times each day on his way to and from work, joined me and said "Your dog dead. Alive this morning. I see him sick three, four days. Mad wolf bite him. Wolf fight my dogs. One dead three days, one sick now. Mad wolf go all around town, bite many, many dogs."

For me the case had been adequately diagnosed. This was rabies. No wolf would enter even the outskirts of the town, nor would it deliberately come up to dogs, unless it were rabid.

Rabies had seemed to me a possibility during the four days the dog was sick, as he was acting like a wild animal, keeping as far from me as possible, a behavior in which I had never before seen a sick dog exhibit during almost a half-century of experience as dog owner. There is no veterinarian located within hundreds of miles of Churchill, and the dog owners I had consulted scoffed at the idea. Not until months later did I know that the law requires even a suspicion of rabies to be reported to the nearest office of the Health of Animals Division.

"Does the mountie know about the wolf?" I asked Jawbone, the Indian. We people of the North are accustomed to placing all our burdens on the

shoulders of the R.C.M.P. They are our advisers, helpers and friends in every type of problem, even in cases of sickness and death.

"Yes," he answered, "the mountie know I shoot wolf ten days ago."

Surprised that, as a dog owner, I had not been warned to be on the outlook for rabies, and that pet dogs were still being allowed to run loose, I inquired of Sergeant Smyth, who is in charge of the local R.C.M.P. detachment, what steps had been taken to control the outbreak of the disease.

This was the first Sergeant Smyth had heard of rabies being in the area. Jawbone had simply presented the wolf head to have an application made out for the bounty, ten dollars in this province. He had not made any reference to the wolf's being mad, to its having fought dogs, or to its having been shot practically on the townsite.

AS the Health of Animals Division has no representative stationed nearer than Swan River, more than 700 miles south by rail, Major Arsenault, Medical Officer of Fort Churchill, came to see me at once, to inquire about the symptoms displayed by the dog I thought had died of rabies. These, he said, were suggestive, but certain diagnosis could only be made by having the head clinically examined in the laboratory at Hull, Quebec. On my offering to disinter the dog, he explained that brain tissue decomposes so rapidly that the head had to be from a freshly dead animal and shipped in ice, or other suitable medium.

Major Arsenault and Sergeant Smyth, who had accompanied him to my home, left to interview Jawbone. In a short time they returned to tell me that I had been mistaken, Jawbone had had no dog die, nor were any of his dogs sick. One dog did have a scratch on the nose, he admitted, and this dog was examined, but showed no sign of sickness. Jawbone was instructed to watch the animal closely and report at the first sign of sickness or unusual behavior.

The change in Jawbone's story I can only conclude, arose from fear that his entire team would be destroyed. If this happened he would be unable to trap during the winter months. The Indians appre-

ciated the fact that madness in a sick animal is transferred by bites to others, and that the sickness always causes death within a few days. They do not appear to realize that man, too, can be a victim. This is known to at least some of the Eskimos living along the coast north of Churchill.

Major Arsenault, before leaving, asked that he be notified if we heard of any sick dog.

A day or so later, Mr. Frank Martin, who lives near the townsite, reported a sick dog, one that had been attacked at its tethering post two or three weeks previously. Mr. Martin had gone out of doors when disturbed by the excited barking of the dogs and, in the light from his flash lamp, saw what he thought was a big dog, running away. He had noted at the time that the attacker had much the lope of a wolf. Now he feared that was what it must have been.

Under Major Arsenault's supervision, the behavior of the dog and the progress of the illness was watched; and immediately after the animal's death, the head was packed in glycerine and shipped to the laboratory at Hull.

I left for my trapline, where I knew the dogs would be free from further infection, because they would be miles from loose dogs. They would be under close observation also, for they would be tethered within a hundred yards of my own door.

A second dog had refused food the previous day, but as he showed neither a tendency to restlessness, nor any change in his usual friendly disposition, I felt justified in moving him. He had been tied in the canoe in which we were about to take the 25-mile trip to the main cabin, and I was bringing down the next dog, Red, when my wife said, "Brownie has gone mad. Look at his eyes."

No stones lying on the beach were as lifeless as those eyes, but suddenly they became like glowing coals. He struggled to reach Red. My wife pushed at him with a paddle. He tore at it. I rounded the end of the canoe and ordered him to lie down. Instead of his usual, instant obedience he snarled, bared his teeth and tried to get at me.

I was forced to deal instantly with the situation, in the one possible way.

Note that these two dogs, both undoubtedly victims of rabies, showed only one symptom in common, that of not eating. In behavior they had been entirely different, one feared me and kept away, one acted in its usual manner toward me until it reached a stage where it seemed not to recognize either of us, or its best friend among the dogs, and to be consumed with rage at anything that moved.

Another dog, Scottie, became uneasy when a few miles from town. Soon his mouth was open and long strands of saliva dripped almost continuously. Surely this, too, must be rabies. Were we in a canoe with three potentially rabid dogs? The answer could

be nothing but yes.

My wife passed around cookies, Scottie tried to eat one, but could not close his mouth on it. His tongue had darkened and his gums had become as black as coal. The restlessness grew more and more pronounced, yet interest in the surroundings increased until, when we neared home, he got to his feet. Affection toward us remained as usual, very plain to read.

At the landing place, Scottie leaped from the canoe and led me, with even more enthusiasm than was shown by the others, to his usual tethering place. In a few moments, he dropped to the ground, as if exhausted.

During the following three days he did not even smell the food given him. His suffering was no less than terrible; his restlessness grew progressively worse; and his moaning was increasingly steady and piteous. His movements became very jerky. The fourth morning he lay apparently lifeless, except for whining groans. Yet he still greeted us each time we went to him by a feeble wag of his tail.

I knew that there could only be one conclusion to his sickness, and I brought it to an end.

(Please turn to page 32)

The recent outbreak of rabies in Northern Alberta, followed one in Northern Manitoba a year earlier, the story of which is told here



PART III

Joe replied to his father: "I was too wide awake to sleep, so I went out on the river. You shouldn't have waited up for me."

IT was evening. Angus Quincey sat in his easy chair by the window reading in the failing light. He sat very still holding the paper in front of him, pretending to be absorbed in the news printed there, but in reality listening to the footsteps of his son, as he paced up and down the room.

The heart of Angus Quincey was troubled. He had heard the news of Phil's death while Joe was out on the lake with Willow, and he had told it to his son when he had arrived home. Joe had said nothing, but Angus knew his stoicism hid real grief.

Up and down, up and down went his restless feet. The steady pacing was making Angus uneasy. If only the lad could get himself to talk about the things he buried so jealously in his heart. He had not seen Joe pace the floor like this since that night long ago, when that—that snippet had come crashing headlong from the pedestal on which the lad had been foolish enough in his trusting love, to place her. Angus still felt cold rage at the thought of that night. He remembered it sharply now.

The lad had come in late, very late, to find his father waiting up for him.

"Joe!" his relief at seeing the lad home at last safe and sound had made him speak with anger. "Where hae ye bin these many hours? Did ye nae realize 'tis almost mornin'? If ye was a few years younger, lad, I'd whip ye for this!"

Something in the boy's face caught at his heart, perhaps it was the gesture with which he pushed the damp hair off his forehead, or the way he leaned in the doorway. He looked at his father as if to say, "You have failed me," and turned to leave the room.

"Lad," Angus spoke very gently. "I'm sorry I spoke so sharp to ye, but I was worried that something had happened. Come in and sit doon. I kept the kettle bilin'."

At his words Joe's face seemed to crumble and Angus saw the suffering he had hidden so well.

In that moment the lad seemed to shed his boyhood and became a man. All the shy, awkward

In this third vivid instalment, Joe discovers Tanya, learns something of her story and finds that there are other visitors to the Lodge. He has a talk with Donald McTavish and ponders over some values supposed to have been changed, because of the sacrifices of war

boyishness vanished, leaving behind a man with a man's quiet strength. Joe straightened up and said quietly, "Thanks, father, I'll have some tea. I'm sorry I worried you. It won't happen again." He sat staring ahead of him with a steely glint in his eyes as he drank the tea he did not want.

"My mother was a fine, good woman, was she not?" he asked.

"Aye, laddie."

"Her people—were they honored and respected as you are?"

Angus could not understand this strange trend of thought but replied with assurance.

"Aye, that they were. You need never feel shame for any o' them. They were honest and decent-livin'. I never heard a word o' scandal about any o' them. You can be justly proud to hae come from folk like that."

The boy raised his head and looked at his father, his face haughty as he said, "I am proud of them. I shall always be proud of them."

He looked at his father with eyes that glittered, "Sometimes I wish that you had been born an Indian, too, father."

Angus laughed. "Come noo, lad. The Scotch are a fine race too. A man canna help what race he is born intae. It disna' matter much. There are fine folk in every nationality."

The boy's voice was low and bitter when he said, "Sometimes—it matters—very much."

Angus now was lost in thought and did not hear his son leave the room and go out through the kitchen door. Joe went to the shed where he kept his canoe, hoisted it on his back and set out through the forest to the river. He saw none of the beauty around him as he stepped lightly down the path, bent under his load. The soul of Porky did not accompany him tonight and intensify his delight in the woods. He heard none of the sounds he had listened for so eagerly before; he did not even notice the twinkling stars overhead. His thoughts were turbulent and bitter. The news of Phil's death touched him deeply. He had given his life—for what? The privilege to be called a hero, perhaps. The world would claim him a hero now and posthumously award him the coveted V.C.

And why had he died? To create a better and finer world—where race and religion did not matter; a world where all men and women would be created equal, where all men be their skin brown, yellow or white would live together as brothers; where Jew and Gentile, Catholic and Protestant ceased to segregate and persecute and ridicule one another; a world from which intolerance, aggression, hatred were banished completely and forever, to be replaced by compassion and understanding and good will.

Believing in that new world, Phil had given his life, Phil and Porky and all the thousands and thousands of men like them, men of many countries, of many creeds and they died believing that their sacrifice would not be in vain.

JOE asked himself now. Was it in vain? Men were still called Scotch or Russian or Indian, and no man could be found, the width and breadth of all Canada who could rightfully call himself a Canadian. On the application forms, whether one was applying for a job or whether one was applying for housing accommodations one still had to fill in the same old questions—"Please state race and religion." Hatred and suspicion between Jew and Gentile, Catholic and Protestant still flourished. Central Europeans were still contemptuously labelled "foreigners" whether they were born in Canada

Illustrated by Clarence Tillenius

or not; a man of mixed blood was still called a "half-breed." Aggression flourished as it had before the war; the strong oppressed the weak; labor feared and hated capitalism; capitalism still sought to crush and destroy labor, nations looked at one another with distrust and suspicion. The people had not changed; they had learned nothing by war. Even in a small place like Pelican Bay there was racial and religious intolerance, hatred and distrust.

Joe pushed his canoe out on the river and jumped in. He paddled swiftly and steadily westward, away from all human habitation, deep into the forest. His thoughts were with Porky, the boy who had loved his wheat fields and his prairies, with Phil who had found his lost Freda, and he was suddenly envious of them.

IT was very late when his canoe rounded the bend again, homeward bound. He was tired, more tired than he had ever been in his life it seemed. He saw the light burning in the Lodge. Tanya was up late. He paddled swiftly and noiselessly to the pier below the Lodge and tied up. He would see her again, this girl who had been the first to teach him race-consciousness.

He crept up the stone steps as silently as a shadow and stepped in front of a tree so she would not see him outlined against the sky. He thought at first the cabin was empty. He could see the table on which the lamp was placed; the door leading to the kitchen stood open, but there was no sign of Tanya.

He moved closer, hugging the long shadows of the trees on the bank. Then he saw her. She was wearing a long blue robe, her hair, the hair he had compared with the gold of the sunlight, soft and silken and filled with reddish lights, hung down over her shoulders. She was rubbing her arm as if she were in pain. He moved closer still until his shoulder touched the side of the window. She turned and faced him.

For a moment he thought she had seen him. She looked pale and frightened. Her lips moved but he heard no sound. He was about to call to her, to let her know who was standing outside her window so that she would know there was nothing to fear, when she turned away and walked back out of sight. Her bare feet made no sound on the rug. He could not tell whether she was still in the room or had gone to bed.

But she would hardly keep the light burning. He slipped around to the east side of the cabin where there was a window through which he could see the length of the room. She was standing by the fireplace, rubbing her arm up and down, up and down. She turned as if she felt his intense gaze and faced him, seemed to be looking straight at him with the wide, sightless stare of the blind.

She raised her hand stiffly in front of her as if she had seen him and was pushing him away. He was going to call when suddenly her arm dropped to her side and she turned away. His heart was pounding in his breast and he felt unnerved. Once he had seen a boy in a military hospital suffering from war exhaustion. He was somehow reminded of that boy.

He watched her drop on the chesterfield. She reached for a cigarette and tried to light it awkwardly with her left hand. The match shook so in her fingers, she could not hold it to the cigarette and in sudden fury she threw it into the fireplace.

"Oh God, I can't bear this much longer," she cried aloud and wept.

The man at the window did not move. This was not done for effect for she thought herself alone. What had happened to Tanya that she felt she could not bear? What had sent her back to Pelican Bay, away from her home, her people, to weep alone in the solitude of the deserted summer colony?

He waited until she sat quietly in the chesterfield, her head back, her eyes closed. "Go to bed,

Tanny," he thought, his eyes fixed intently on her face. "Go to bed—go to bed."

She sighed and stood up, running her fingers through her hair, looking around her as if she had just awakened from a bad dream and said, "I might as well go to bed." She walked over to the lamp and Joe stepped back into the shadows. The light went out and he heard a door close. He waited a few minutes, then crept quietly back to the cliff, down the steps and into his canoe.

Day was already breaking in the east. The birds were chirping, stars faded and streaks of light appeared on the horizon. Joe let himself noiselessly into the house. His father was sitting in the chair by the fireplace. He sat quietly for long minutes looking at his son.

"It's verra late, lad," he said gently. "I kept the kettle bilin'." Joe's dark eyes met his father's. The same words—did his father know where he had been

the warm sunshine and picked up the flowers.

"Thank you," she said, very softly and watched the little girl move slowly to the gate where she turned and waved. Martha waved back, then she held the bouquet to her face and found relief in tears.

Joe and his father came over later in the day, and they, in Miss Glover's opinion, behaved in a most peculiar way. Neither made any mention of Phil.

It was Martha herself who brought up his name. She turned suddenly and said to Joe, "Tell me, Joe, were you thinking of Phil the other night when you were here?"

Joe nodded.

"You knew then that he would never come home, didn't you?"

Joe nodded again.

"I felt what you were thinking, but I pushed it out of my mind. I didn't want to believe it."

"He wasn't meant to come back, Martha," Joe replied in his quiet voice.

Miss Glover thought Joe most unfeeling, lacking all decent sympathy. All he could say at the death of his friend was "He wasn't meant to come back."

Angus left, and shortly afterwards out of a clear blue sky Joe said to McTavish, "I was on the river last night, Mac."

The eyes of the two men met, and Martha looked up, startled. McTavish nodded. "I'm glad," he said. "I was goin' t' tell you myself after you'd been home a spell. It didn't seem right, somehow, t' be goin' behind your back. I'm glad that you know. Did you see—" he broke off, looked at Miss Glover and changed his mind.

"Yes," there seemed to be some hidden meaning in that one little word.

AFTER supper the Old One came to the Hatchery to see Martha. She was wearing a faded print dress, from which the pattern had been worn off unevenly by many washings and a strong sun. Over the dress she wore three aprons all of which Martha had made and given her on different occasions. That was her way of expressing the esteem and affection she felt for Martha. On her feet were huge rubbers that she managed to keep on by wearing several pairs of thick woollen stockings.

The Old One lived alone in a tiny cabin perched on the north bluff overlooking the lake. Nothing would induce her to leave her home and go and live with her relatives, so the people of Pelican looked after the old woman and did their best to make her comfortable. Mrs. Shorting did her washing and ironing. Mrs. Wolfe cleaned the cabin every few days and washed the dishes that the Old One piled carelessly up

in a pan. They supplied her with food and it was quite the usual thing when someone was baking pies to make an extra one for the Old One.

As she was related in one way or another to all the Indians in Pelican Bay and the surrounding district, they all felt responsible for her. No one knew just how old she really was and they strongly suspected she had forgotten herself, although she looked very mysterious when anyone asked her, implying that it was a secret she had no intention of revealing.

In spite of her great age and frail body, she possessed a strong will. (Please turn to page 40)

Tanya

by KRISTINE BENSON KRISTOFFERSON

and whom he had seen? No that wasn't possible. He didn't know about Tanya. He couldn't possibly have guessed.

"I'm sorry, father," he replied. "I was too wide awake to sleep so I went out on the river. We'll have a cup of tea and go to bed. You shouldn't have waited up for me."

He smiled at Angus, the same sweet smile his mother had had. He was touched by the silent sympathy, the long vigil of his father.

Angus felt closer to his son then than he had since Joe's return. Understand him he never would, but love him he could and did, and he felt the unspoken love of his son in that slow sweet smile. Joe had been fighting a battle with himself out there on the river and he knew now that he hadn't been alone, that his father had been fighting it with him sitting there all night by the fireplace.

ALL day the people of Pelican came and went in a steady stream to the Hatchery offering their sympathy to the bereaved McTavishes. Most of them said nothing at all, just came silently into the kitchen, looked at Martha with sadness and love, laid their gifts on the table and went out. There was no hysteria, no pious worn-out phrases. Martha, to them was a sorrowing mother to whom it would have been nothing short of an insult to offer comfort with words.

Johnny Ottertail chopped a great pile of wood in the back yard and left it neatly piled where it was handy for Martha to get it, but he did not come into the house, nor did he speak to either of them.

Little ten-year-old Martha Wolfe, named for Martha herself, brought a big bouquet of asters she gathered from her mother's garden, and left it on the back porch. Martha stood in the doorway and watched her step timidly forward. The child's brown eyes were brimming with tears as she whispered softly, "with love from little Martha."

Martha McTavish, who had not slept all night nor shed a single tear, stepped out into



Afar, stood Willow Lebatt watching.

THE TOWN WHERE MARY LIVED

by LESLIE GORDON BARNARD



Mary lived in a white house just two doors beyond where he had visited on summer vacations.

Milt remembered that there had never been anything between him and Mary, nothing definite, nothing to pin him down. George had plans, "No small towns for me, nor cities either. I'm going north." He knew how George felt and you do not let a pal down for a sentiment

THEY slept in the day coach, coats bundled up for pillows, stockinged feet on the opposite seat which was fortunately empty, George snoring a good deal. George could sleep anywhere. His big hulking body crowded Milt, who was wakeful, too excited and uneasy to sleep. The noises of the train drowned George's snores except when the train would stop, at some station, and feet would crunch on cinders or voices become suddenly loud in the darkness; then the train would jerk on again.

When dawn began to pale the sky, Milt began to recognize the names of stations, places that spelt home to him when he was thousands of miles away at sea. It was hard to believe he was actually here. He couldn't even doze any more. He felt a queer gnawing at the pit of his stomach. Maybe all the junk he and George had eaten wasn't sitting so well, or maybe it wasn't that. He sat watching the first rays of sunlight tip up over the rim of things, and saw it was going to be a swell day, full already of golden light that washed against the angles of barns and farmhouses and way-stations.

Milt was grimy after the long hours in the train so he went and had a wash, sluicing himself with cold water, head, neck and chest, rubbing himself into a glow with the inadequate paper towels. When he swayed back to his seat, George was awake.

"Hi-ya, pal," George grinned. He went and had a wash-up, too. When he came back Milt was fingering a time-table.

"We're right on time," Milt said.

George eyed him. "Now listen," George said, "you get that girl off your mind."

"Can't I even—?"

"No," George said, "you can't."

He and Milt had plans of their own, and they

didn't include dames, as George put it. Standing watch one night with the stars reeling above them, they'd talked it over.

"No small town stuff for me again," George said, "nor cities either. You can have 'em. Me, I'm going north. Maybe up Alaska way. Look Milt, how about you and me ganging up when we're through with this, huh?"

Milt said, "That's swell, George, I'm all for it."

They shook on it and George said, "No dames, either, see? Who's this girl you get letters from now and then?"

Milt said, "Oh, her? Just a kid I used to kick around with. Week-ends and summer vacations I'd go over to the town where she lived and—well, that's about all there was to it."

DEFINITELY, George was a man's man. If he thought about girls at all it was to joke about them. He was big and hard and two-fisted. It made Milt feel pretty good that a guy like George should like him, should pal up with him this way. When they quit the sea, getting their last pay, grinning farewells to the good guys they'd kicked about some of the seven seas with, Milt and George took the same train, watching the scenery flow by, talking plans. Now George was getting leery, because pretty soon they'd get to the town where Mary lived.

"It's a divisional point," Milt said. "We stop twenty minutes."

"Yeah," George nodded.

"I could just say 'hello' to her," Milt said.

George said, "Listen, don't be a sap. You and me, we're on our way. Keep your feet out of the sticky fly-paper."

The train rushed them through sunlight and shadow, flung a hoarse challenge to a rock cutting, a bridge whose diagonals flashed in the sunlight, and bore them around a curve, slowing.

"Look," Milt said, "there it is."

A trainman came swaying through. "Lanesville. Lanesville. Twenty minutes wait. Restaurant on the station platform."

The train ground around the curve, jolted, was released, ground to a stop. George followed at Milt's heels. Lots of people were getting off, heading for the restaurant. "Come on," George said, "I'm hungry." He pushed Milt toward the screen door now flapping back and forth to admit the seekers after breakfast. Milt went, but he walked like a man in a dream. He was back in Lanesville. This was the town where Mary lived. There was a sudden sick ache that cancelled everything else.

He could see back of the station the familiar buildings on Main Street: the Commercial Hotel, the top of the fire hall with its hose tower, the sign above the Greek restaurant where so often he and Mary had gone. Four years. Four years ago and it all looked the same, felt the same, even smelled the same—a whiff of bread baking coming from Cantor's Bakery. He thought of the times he had come over here from Waltham where he clerked before he went east to hunt a ship, because he liked the look of the sea in a poster. Week-ends, summer vacations, staying with his Aunt Liz, who had died the first year he was at sea; she had a house on Maple just two doors from Mary's people.

Mary and he? Well, it was one of those things. Wisecracking, pairing off for the skating on Foster's Pond in winter, the ice silver, the trees black against a luminous sky; or for the street dance in summer, with Main Street roped off and traffic detouring, and try-your-luck booths

up and down the curb, and Wally William's orchestra over from Waltham dispensing it hot and sweet from a big bunting-hung truck, with megaphone vocals. There was never anything between them, nothing definite, nothing to pin him down.

GEORGE said, "C'mon, moonface, if you want a stool at the counter."

Milt said, "Look, George, I'm not hungry. I—I just want to walk up the street a piece."

"He wants to walk up the street a piece," George told the screen door. "You give me a pain," he said. "Okay, take a walk. Drop me a postcard showing you and the girl making eyes."

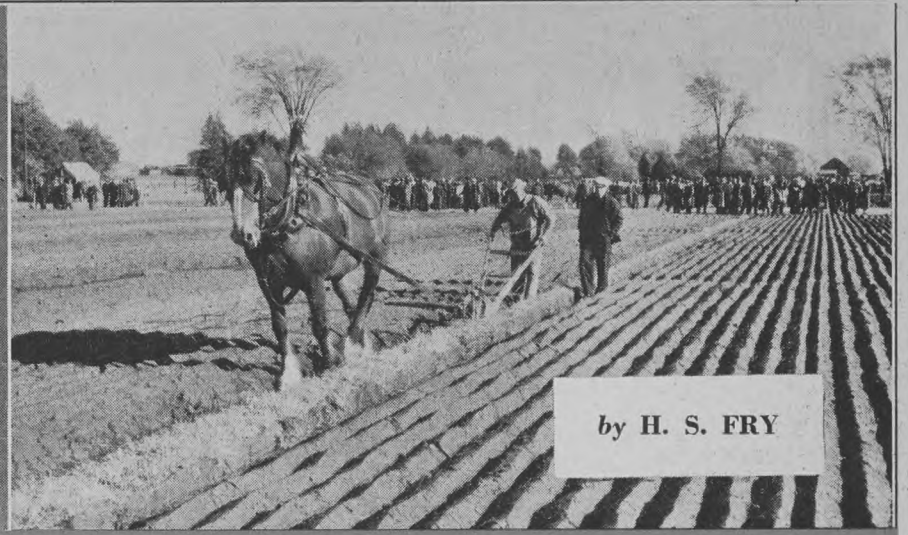
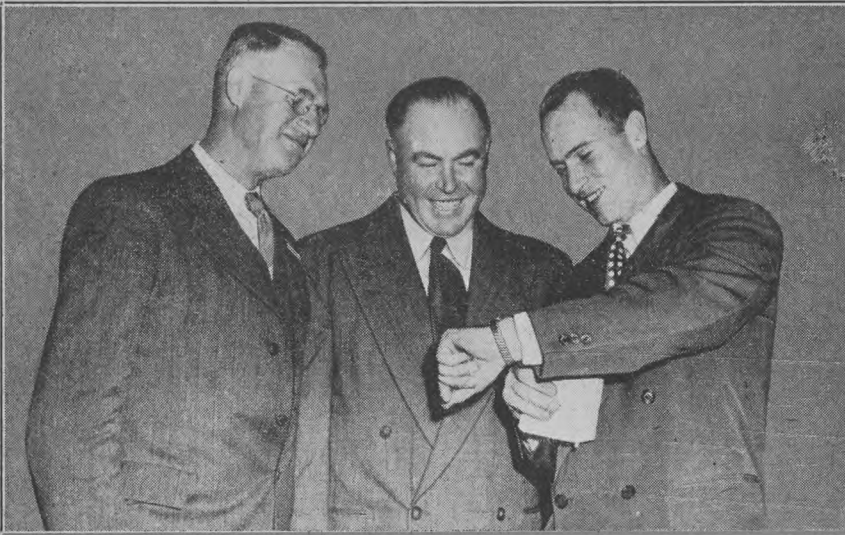
"I'll be back," Milt said.

"He'll be back," George said; he kicked the restaurant door open and went in. Milt knew just how George felt. Letting a pal down for a lousy sentiment. George was like that about women. Maybe there'd never been anyone like Mary in his life.

It was queer to be actually on Main Street again. He passed Foster's (Please turn to page 65)



Illustrated by Gordon Collins



by H. S. FRY

Left: Trans-Atlantic winners Algie Wallace (center—horse plowing) and Douglas Reid (right—tractor plowing) pose with Roy Shaver, Newington, team manager on the Esso-sponsored trip to Britain this month. Right: Championship sod plowing with horses requires great care.

Plowing Match De Luxe

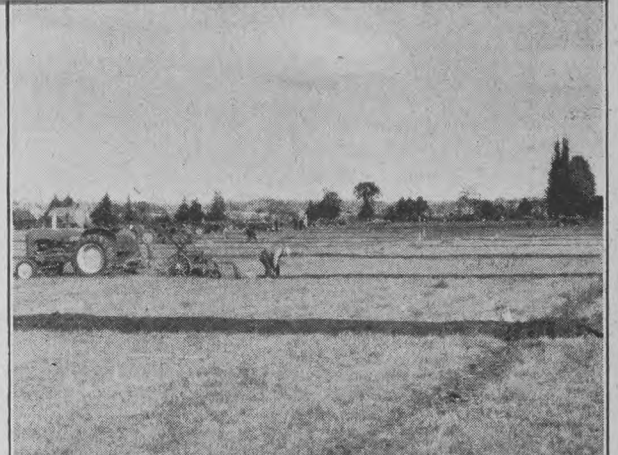
The International Plowing Match and Farm Machinery Demonstration, held annually in Ontario, is the world's largest



NO one now living can say with any certainty when plowing developed—out of an exhibition of strength and ingenuity—into a skill. No doubt the transformation occurred about the time the plow evolved from the crooked stick, with its subsequent modifications, into an implement consciously designed to shear off a layer of topsoil and turn it over as a furrow. From then until the early iron plows and the steel plow, which a century ago made possible the development of the North American prairies as farm lands, and ultimately to the great steam outfits which ripped their way across the virgin prairies 12 or more furrows at a time, the plow was the symbol of farm progress. Its apogee was reached in these giant outfits, which, sadly enough, gave all homage to speed, and little or none to skill.

Today, in areas where large-scale farming is a necessity, the plow is fighting a losing battle. We now have books which say that the plow is a harmful tool, and men who have practiced plowless farming for perhaps two decades. In other areas, where the climate and types of farming are different, the plow holds its popularity and men continue to take great pride in the exercise of skill in its use.

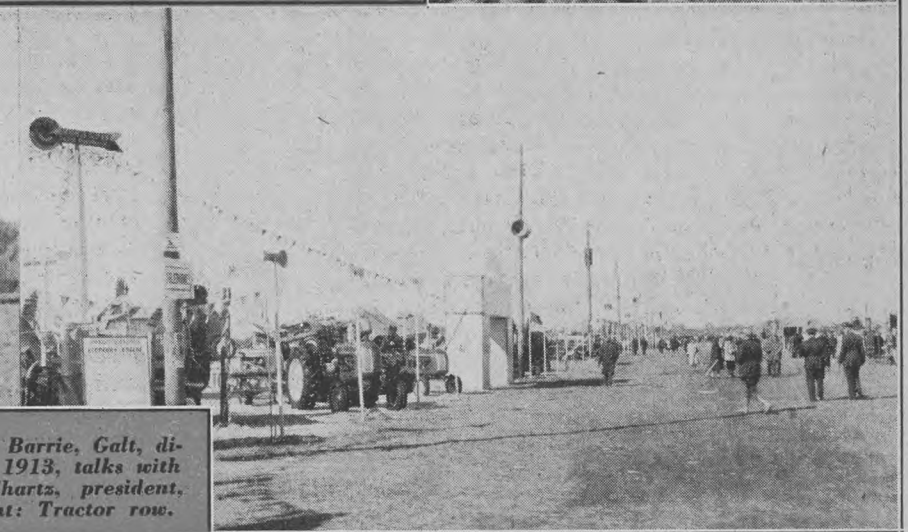
Plowing, like other skills, engenders competition. Perhaps there is a record of the earliest Canadian plowing match, but certainly they have been a part of the rural scene in eastern (Please turn to page 66)



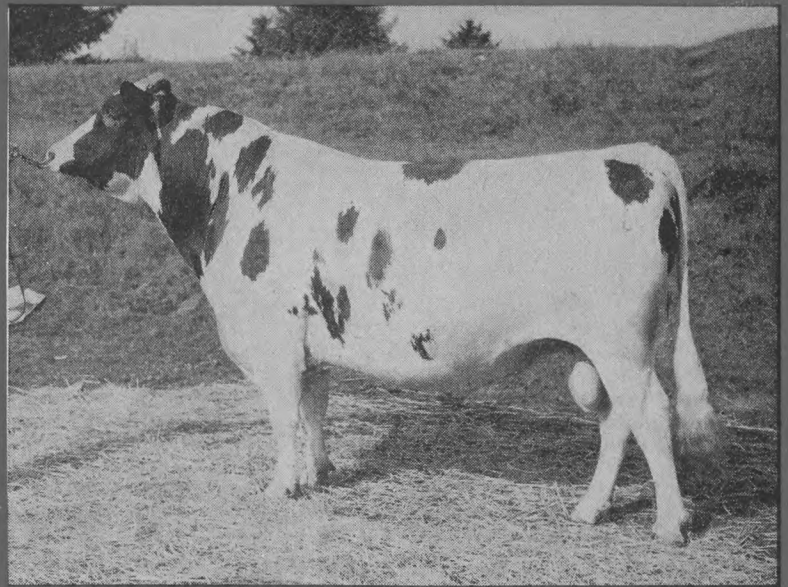
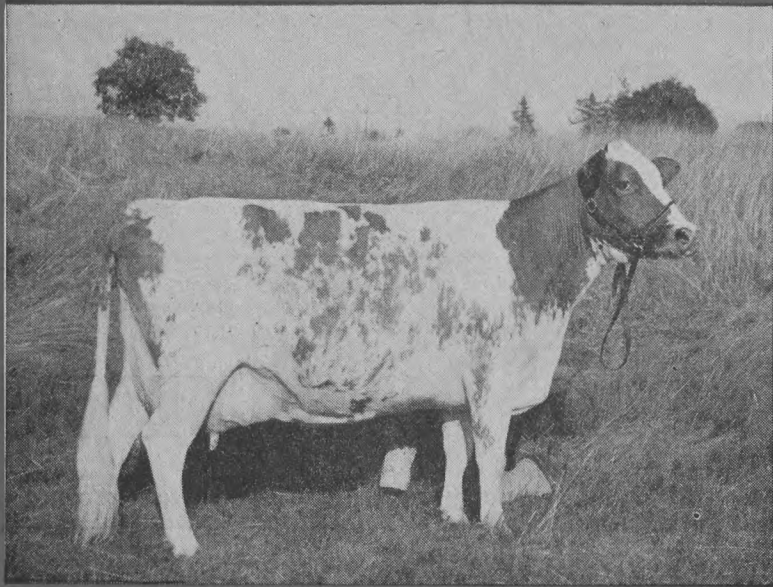
Above, left: A finished land ready for the judges. Below: A lady contestant plows competently. Above, right: A tractor competitor fixes his crown. Below: A horse plowman builds a good crown.



Left: W. C. Barrie, Galt, director since 1913, talks with Russell Beilhart, president, 1952. Right: Tractor row.



LINE BREEDING - and how it works



Above: Ubyssay Admiral's Commodore. University of British Columbia 1951 Grand Champion at the Pacific National Exhibition. Traces twice to both Rosalind and Gladness and is 6.2 per cent inbred.
Left: Ubyssay Cockade Roberta. Traces 2x to Rosalind, 3x to Gladness, 1x to Lassie and is 4.7 per cent inbred. Classified Very Good and was 1952 P.N.E. Gr. Ch. At 2 years: 365-day (2x), 8,833 M. 5.54 per cent, 489 F.

MAN has been interested since the early days of the domestication of animals, in trying to improve the performance and type of livestock. Progress, while gradual, has been quite marked in many herds and flocks. This has come about partly by improving hereditary factors and partly by improving such non-hereditary factors as feeding, care and general management.

A primary prerequisite to animal improvement by breeding is an accurate-as-possible appraisal of the impact of non-hereditary factors upon an animal's genetic (hereditary) potential. It is important to realize, also, that there can be, and frequently is, considerable discrepancy between individual performance and breeding worth. Genetic potential is established when conception takes place; individual worth becomes apparent as the animal grows and matures; breeding worth is demonstrable only when progeny are available for study. The three are, of course, not unrelated and can be estimated, but not very reliably, from pedigree study.

Pedigree, however, is all we have in the first place; it is all we have for some time. For dairy sires it is all we have that is very useful, for five or six years. By that time, in most cases, the dairy bull is dead. It is, obviously, extremely important to make pedigree estimate as indicative as possible of performance and breeding worth.

THE mating system most useful, both in theory and as demonstrated in practice, for achieving this objective, is line breeding. It involves the mating of related animals—related because they are both descendants of the same highly meritorious ancestor. As the program develops through successive generations, mates will usually have a number of meritorious ancestors in common. Thus line breeding is a mating system which embodies the principle of selection amongst ancestors. Adequate information can be and should be available, concerning the individual merit and breeding worth of ancestors. The inheritance of the most worthy is concentrated in the line-bred descendant; that of lesser ancestors becomes halved with each generation and is soon of little importance.

The principle may be simply illustrated. An animal bears about the same relationship to a common grandparent as it does to either of its parents. Its genetic makeup is influenced about twice as much by that common grandparent as it is by either of the other two grandparents. Under continuous outbreeding (the avoidance of relationship between mates) all ancestors, good and bad, in any one generation in a pedigree, have equal bearing on the descendant. Line breeding and line breeding only,

As demonstrated over more than 20 years in the Ayrshire herd at the University of British Columbia

can discriminate amongst ancestors, can favor those most highly regarded and maintain their influence through successive generations. This is the primary reason why a well-planned line breeding program can be expected to produce desirable results.

A secondary benefit from line breeding occurs, in that inheritance tends to become more fixed, and animals tend to reproduce with more uniformity. In other words, pedigree analysis becomes more

of that sire had been used in those two cases, the results would have been 6.25 per cent and 3.12 per cent respectively. Those percentages are estimates of the change from unfixed, to fixed, inheritance, and are, therefore, indicative of expected increased reliability in breeding results amongst line-bred animals.

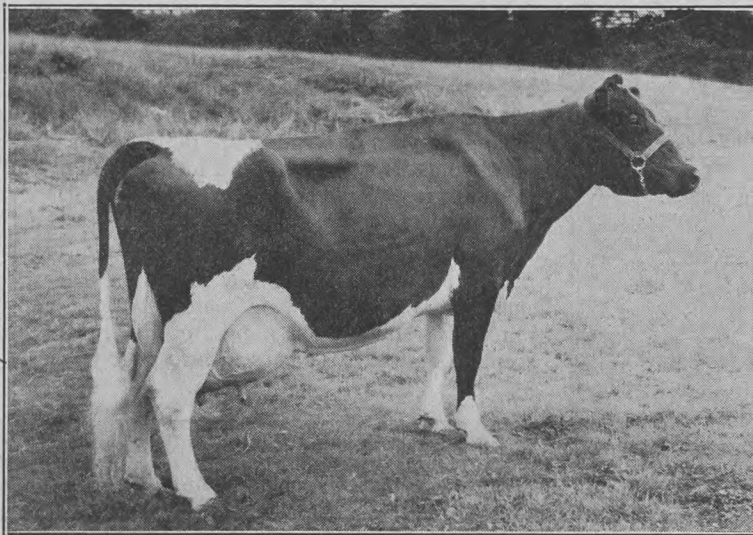
LINE breeding will not automatically produce superior, or even good results. It is a powerful tool and needs to be handled with care and caution. The importance of really high merit and proven breeding worth in any ancestry common to the sire and dam of the line-bred animal, cannot be over-emphasized. Such ancestors are less likely to possess hidden inheritance, which, when fixed by line breeding in the line-bred descendant, might cause undesirable, or even disastrous, results.

Few, if any, line breeding efforts can continue for long without needing the introduction, in mild-outcross form, of some new or relatively new inheritance. This is accomplished by having about every third or fourth sire related to his mates on one side of his pedigree, but not on the other. There should be as much evidence as possible that this new inheritance being introduced will make for improvement where most needed.

It is desirable, but not essential, to make a few close matings in the early use of a new sire. He may be mated back to his dam, to a full sister, or, eventually, to two or three of his own

daughters. Such a severe test provides two or three times as much opportunity for any bad inheritance that might be present, to show up, as when very close matings are avoided. If the breeding results from a sire are not satisfactory, it is even more important to replace him promptly under line breeding than under other mating systems. Usually, the replacement sire would be of carefully selected mild-outcross breeding; or, if the situation is quite critical, of complete outcross breeding.

Any of a very large number of successful line breeding efforts might be used to illustrate in some detail, how such a program develops and what can be accomplished when (Please turn to page 70)



Colony Pearl Vronka Countess. Seven per cent inbred Gr. Ch. female and dam Jr. Ch. bull, 1952 P.N.E. Traces 5x to Sir Romeo Mildred Col-antha 6th; 4x to Hazelwood Heilo Sir Bessie; classified Very Good. Four records. At 6 years: 365-day (3x), 20,274 M. 4.15 per cent, 842 F.

reliable. The estimate of this change in hereditary make-up, caused by line breeding, is indicated by the percentage of inbreeding in the line-bred animal. For example, an animal that has for parents half-brother and sister, will be 12.5 per cent inbred; full brother and sister, 25 per cent inbred. A sire mated to his own granddaughter will produce an animal 12.5 per cent inbred; mated to his own great granddaughter 6.25 per cent inbred. If a son

by J. C. BERRY



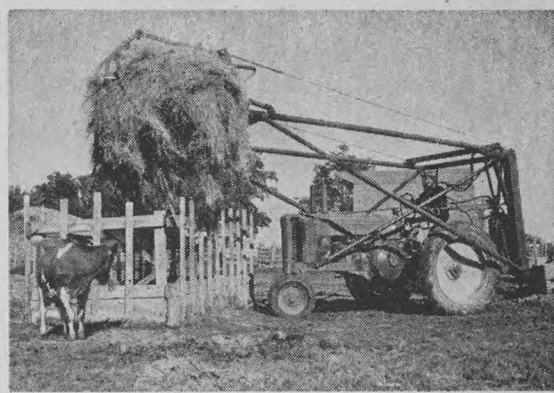
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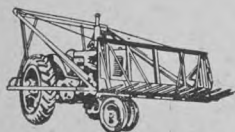
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B.C. and Her Problems

A supply of Alberta gas awaits U.S. decision—a river dies to make an artificial lake—province welcomes increased grain trade and order for apples

by CHAS. L. SHAW

B RITISH COLUMBIANS were looking anxiously toward Washington, D.C., earlier this month, and it wasn't entirely because of their interest in who would be the next occupant of the White House. One of the causes for their concern was the application of Westcoast Transmission Co. before the U.S. Federal Power Commission, for the marketing of Alberta's natural gas in the Pacific Northwest states.

The Washington hurdle was the only one remaining to be overcome by Westcoast, which has already received the blessing of the Alberta and British Columbia governments and the Transport Board at Ottawa. One might imagine that approval by the various Canadian authorities would be sufficient to flash the green light for this natural gas project, but the fact is that unless the pipeline can be extended into American territory it may not be worth building at all.

The British Columbia market, although rapidly growing, is not in itself sufficient to warrant a costly pipeline project from the Peace River gas fields. The pipeline operators must be assured of sales in Washington and Oregon. The fact that both those states, in spite of the enormous power development on the Columbia River, continue to be short of energy and fuel, would seem to indicate that Alberta's natural gas would be welcomed. The complication is that the gas interests in the northwest states are being told that the promised flow of natural gas from the Peace River is not enough to warrant costly changes in the distribution set-up already existing.

The objection of the northwest gas interests is that Alberta officials have, so far, authorized export of gas only from the more distant Peace River field, and not from other productive areas in Alberta. The Albertans and Westcoast Transmission people are confident that there will be plenty of gas for all concerned, but the Americans want to be shown; and competing groups from the southwest states are doing all they can to sell the idea of Texas and New Mexico gas, rather than gas from Canada. It was up to the Federal Power Commission to come up with the official answer, and on that might depend the fate of the pipeline enterprise. It wouldn't necessarily kill the program altogether, but it would certainly postpone it; and if southwest gas once gets into the northwest market, it will be all the more difficult to dislodge it, regardless of the rising potential of Alberta and possibly northeastern B.C. gas fields. Meanwhile, of course, the Trans-Mountain oil pipeline is being hurried to completion.

T HE Okanagan orchard country had good news when Brazil came up with an order for 45,000 boxes of Delicious apples. Of course the volume wasn't important, because compared with the domestic business being done, 45,000 boxes is insignificant. It was cheerful for the growers, however, because it was a tiny bright light in

an otherwise dark export sky. Brazil, for instance, hadn't been buying B.C. apples since 1949. The U.S. subsidy on apple exports was enough to knock Canadian fruit out of that market, but the bonus was removed this year, and it was nice to see that under natural conditions the B.C. growers are able to sell again in South America. Venezuela appears to be interested too.

More and more B.C.'s major industries are becoming dependent on their home market, and since B.C. customarily produces far more than the home market can absorb, the situation is anything but healthy. Canada alone, for instance, cannot eat all the canned salmon that is normally produced on the west coast, nor can Canada consume all the lumber manufactured by B.C.'s sawmills. Hence, an unprecedented unsold carryover of canned salmon, and a worrisome time for the lumber exporters. It is little wonder that this part of Canada has a special interest in the approaching monetary conference, even though it takes a confirmed optimist to imagine that there can be any quick cure for present economic maladjustments which make it necessary for a market like the United Kingdom—eager to buy in Canada—to do without, despite Canada's anxiety to sell.

B RITISH COLUMBIA could hardly be described as a grain province, but a considerable amount of wheat is shipped through her ports to the markets of the world, and it is encouraging to know that the movement from the prairies is maintaining a brisk pace. The shipping year at Vancouver is barely two months old as this is written, but the volume of wheat taken out of the port by deep-sea ships is 50 per cent ahead of the corresponding period last year. Already on hand are orders for more than 50 million bushels, most of it to the United Kingdom, but some 20 million bushels for Japan. A considerable flow of barley is going through Prince Rupert elevators—also to Japan.

The comeback of Japan as a trading nation is beginning to mean a lot to British Columbia. Before the war, of course, Japan was one of this coast's major markets for lumber, metals, grain and other commodities. Then, for the entire war period and several years thereafter, Japan might as well have been non-existent as far as trade with Canada was concerned. Ships of Japan and other flags have been loading iron ore regularly from Vancouver Island and they are taking lumber and pulp, too, as well as grain.

The Japanese are beginning to move back into the west coast area, too, although not, so far, in large numbers. There will probably never again be the same concentration of Japanese in places like the fishing port of Steveston, at the mouth of the Fraser River, for instance. Before war's outbreak there were more Japanese in Steveston than white people. There are only a few there today, but they are doing well as fishermen. And along the lower reaches of the Fraser, Japanese berry farmers are prospering again.

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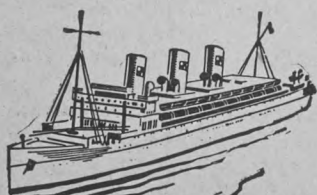
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"You have to hand it to the Japanese growers," remarked a Vancouver fruit canner the other day. "They really work. And, as a result, they get almost double the yield of neighboring whites. For them, berry growing isn't just a seasonal occupation. They are in their fields the year round, unless snow covers their plants. It seems to pay off for them, because their costs of living are so low. And they haven't the distractions of their neighbors."

NOT until the end of November will British Columbia's Social Credit government announce its financial policy, although it probably will not give out many details regarding its over-all legislative program until the house meets February 1. However, November will be an important month politically in this province. The government has called for two by-elections for the purpose of finding seats for two of its ministers who were not candidates at the June election and therefore have actually been serving as members of the government without a constituency.

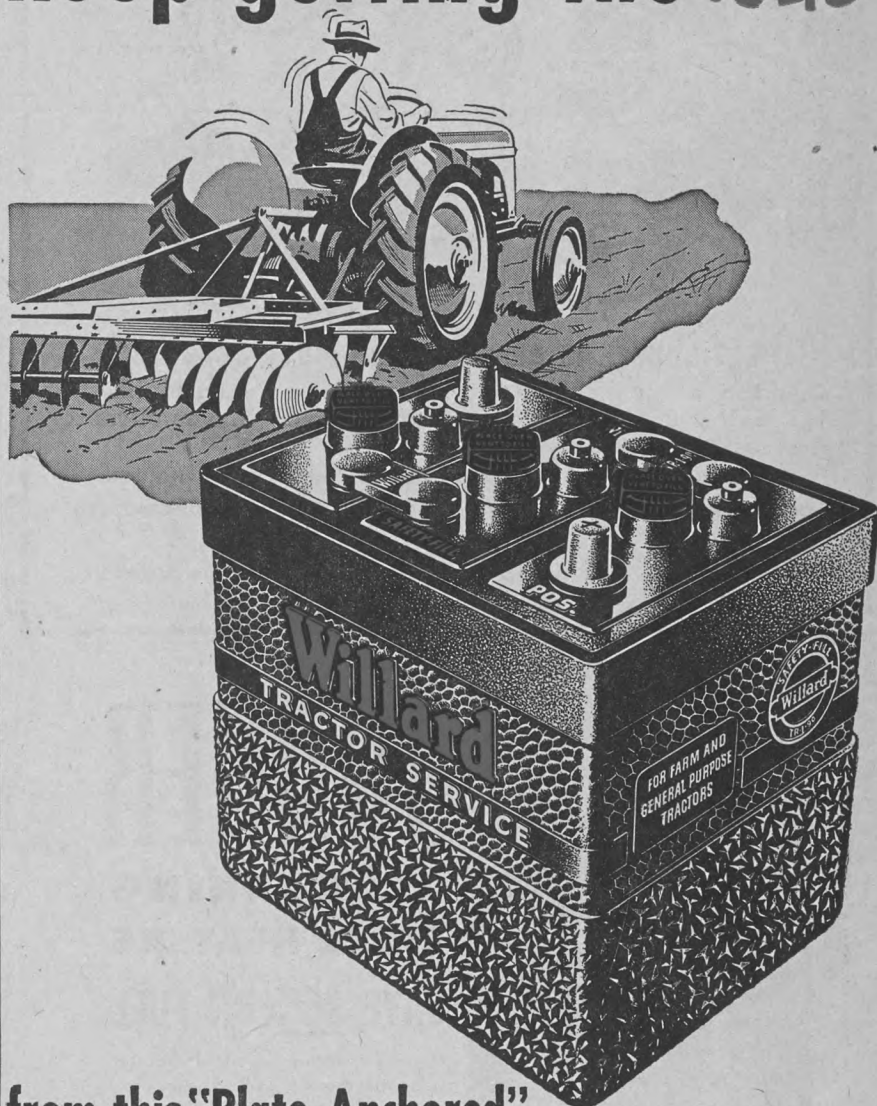
Premier W. A. C. Bennett did not feel that there were among the 19 elected Socreds a suitable attorney-general or provincial treasurer, so he appointed two outsiders. To find a place for them in the legislature two elected Socreds conveniently stepped aside.

The ever-ready C.C.F. will, of course, oppose both candidates. Premier Bennett was hopeful that the other two parties—Liberals and Conservatives—would stand aside and make it a two-party contest, on the assumption that they would rather see a continuance of the free enterprise system, as represented by Social Credit than a victory for the Socialists. Two more C.C.F. members in the legislature would, of course, turn the scales against the party in power. It would give the C.C.F. 20 members and Social Credit 17. This might not necessarily mean a new government headed by the C.C.F. leader Harold Winch, because the Liberals and Conservatives could be counted on to oppose it, but it would make the political situation even more delicately balanced than it is today.

THAT this is an era of change, even geographically, is being demonstrated this fall in the Nechako country, where a river has been killed to give birth to a lake. The Nechako River has flowed eastward for uncounted centuries, from its source in a chain of lakes in the Tweedsmuir Park area. Engineers for the aluminum development at Kitimat, in their program to create hydro-electric energy, decided to divert the waters, through a ten-mile tunnel ending in a series of penstocks, to drive the turbines of the Kemano power plant serving the aluminum smelter of the future. As a part of this scheme a dam had to be built to create a new reservoir in the form of a lake. This month, the water back of this dam began to rise. Eventually a lake some 120 miles long will spread over the surrounding area, while the Nechako, gradually choked off, will become little more than a dry creek bed.



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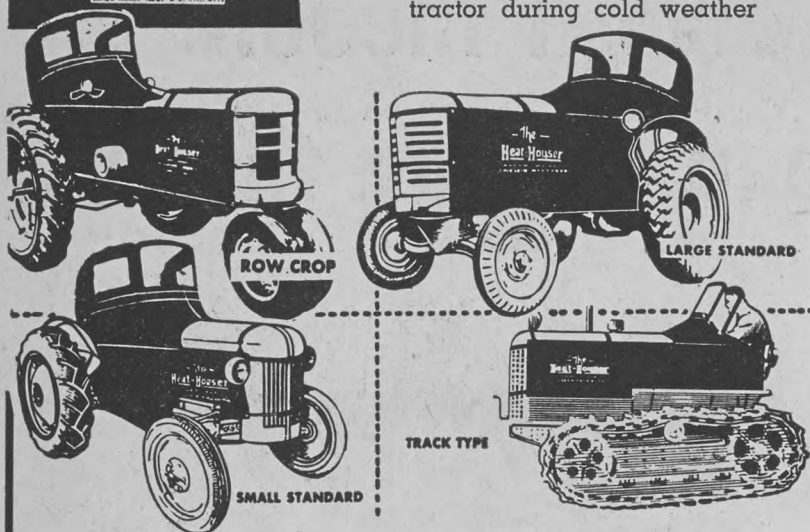
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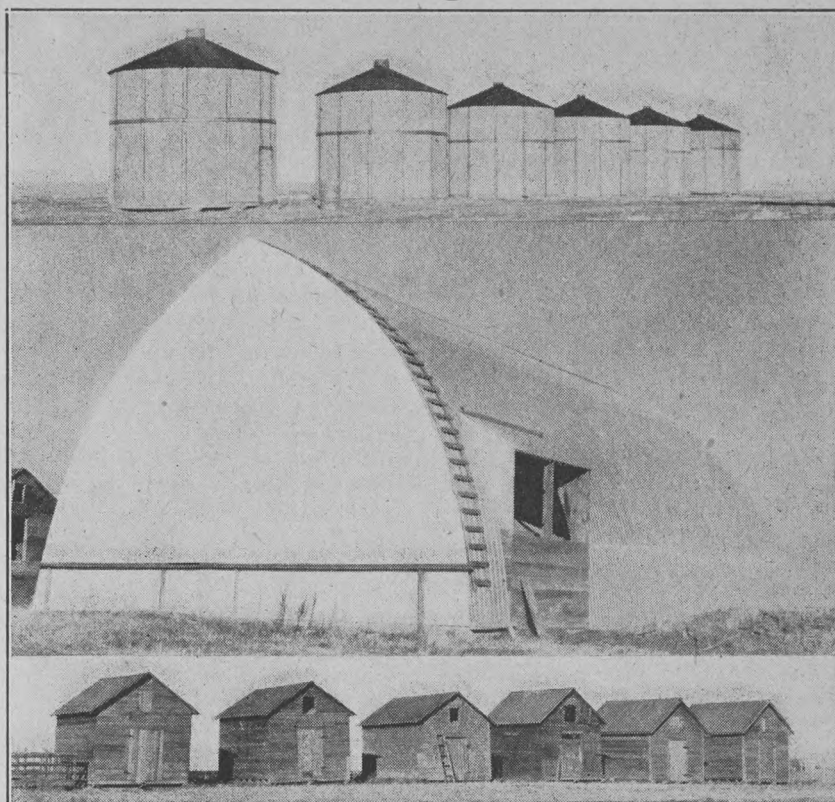


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News of Agriculture



[Sask. Dep't Agr. photos]

Saskatchewan's huge 1952 crop has brought into use old and new buildings in wide variety for storage purposes.

Commission Studies Sask. Agriculture

Royal Commission will devote two years to a study of all aspects of rural life in the province

TO develop "a blueprint for the agricultural industry of this province during the next 25 years," to use the words of Premier T. C. Douglas, the government of Saskatchewan has appointed, on the authority of the Legislative Assembly, the Royal Commission on Agriculture and Rural Life. The Commission is expected to make recommendations regarding the maintenance of a sound farm economy and the improvement of social conditions in rural Saskatchewan. It will also give special attention to present day trends in agricultural production, land use and farm costs, the credit needs of agriculture, the adaptation of social and educational facilities to meet rural conditions, and the development of transportation, communication, electrification and community services.

Chairman of the Commission is Professor W. P. Baker, Director, School of Agriculture, University of Saskatchewan. The five other commissioners are: Mrs. Nancy Adams, Ethelton, prominent Saskatchewan farm woman and past president of the Saskatchewan Homemakers' Clubs; J. L. Phelps, former Minister of Natural Resources and now president, Saskatchewan Farmers' Union; H. L. Fowler, Saskatoon, secretary, Saskatchewan Federated Co-operatives Limited, and a well known leader of the co-operative movement in the province; Charles W. Gibbings, Rosetown, farmer, director, Saskatchewan Co-operative Producers Limited and part-time instructor at the University of Saskatchewan; and T. H. Bourassa, La Fleche, merchant, prominent for many years in town and rural organizations.

The first meeting of the Commission was held in Regina, October 7-10, at which time its terms of reference were defined and methods approved for the collection and analysis of information. Two factors have determined the

methods by which the Commission will operate to achieve its final report and recommendations. One is the fact that the chairman is the only full-time member; the other is that the terms of reference mean that the recommendations of the Commission must be directed not only to the legislature, but to local communities throughout the province, to provincial organizations concerned with or affected by the welfare of agriculture, and to agencies outside the province whose operations have a bearing on provincial welfare.

The Commission will, therefore, operate with the aid of a secretariat, divided into three divisions. The first of these, the research division, will be designed to collect, analyze and examine social and economic information. This division will study relevant, statistical and other existing information and will also gather material from a detailed study of selected communities or problem areas throughout the province. Care will be taken to avoid duplication of any previous investigations which may have been made.

The second division will be a public relations and information division. In this respect, the work of the Commission will be comparatively unique. It is a declared purpose of the Commission to co-operate fully with the press and radio in order that as the work of the Commission proceeds, the public will be kept fully informed. The Commission hopes that the public may be encouraged to make representations and thus bring to bear on the problems which face the Commission, as representative and as varied a cross-section of experience and viewpoint, as may be provided by the people most concerned. The Commission proposes, for example, to classify and release through the press and radio, all factual information as it becomes available. It is anxious to consult with organizations for the purpose of arousing interest in the preparation of community briefs.

By these and similar means it is hoped to arouse a considerable amount of public discussion of the many and complex aspects of the future development of agriculture in the province, and to develop a vigorous and intelligent public opinion, which can be expressed either for or against any recommendations the Commission may later make.

Public hearings will be held at various points throughout the province and at different periods in the work of the Commission. The Commission has considered four types of hearings: (1) either public or private hearings on technical questions; (2) general public hearings open to all individuals and groups; (3) special request community hearings with two or more commissioners; and (4) hearings outside the province. It is stipulated that briefs for all hearings must be submitted well in advance, and an official statement says that "presentations will be selected to give representative points of view."

The Commission expects to take approximately two years to complete its work. It has already completed all necessary organization and is now beginning to do some preliminary field research. Conferences at which provincial and community problems will be considered, will soon be organized. It has set up a series of 11 farm and rural "conditions" which will be studied and which will in turn be related to local, provincial and perhaps inter-provincial views with respect to these conditions. The latter range from soil and climate, through population, science and technology as they operate on the farm, farm products, marketing, management problems, settlement, commercial, professional and social services, public utilities, and farm organizations.

Since the chairman is the only full-time member of the Commission and the time of other members must be used to best advantage, the Commission will work through a series of committees, operating in different fields. The chairman will be a member of all committees, and each of the other five members of the Commission will be chairman of one of the committees. Thus each committee will consist of the chairman of the committee, the chairman of the Commission, the secretary, the head of one of the divisions of the secretariat, and such consultants as may be necessary. Consequently when the Commission as a whole meets to consider a problem, the chairman and at least one other member of the Commission will be fully conversant with all the facts available regarding it.

The method to be employed by the Commission in carrying out its work is characterized by a planned and orderly sequence of investigation coupled with a conscious aim toward public awareness, both of the significance of the Commission's work and the necessity for full public co-operation. If this work is to be successful, some measurement of its success may be made three years from now, or one year after the Commission has concluded its work.

The Late John T. Hull

ON October 19, in Winnipeg, after lengthy illness, the death occurred of John T. Hull, who for many years was identified with the co-operative movement in western Canada. He was secretary of Canadian Co-opera-

tive Wheat Producers from October, 1939, until his retirement because of ill health, in 1949.

The late Mr. Hull was born in Durham County, England, in 1874. After education in the elementary schools and higher grade schools of the county, he began as telegraph operator on the Northeastern Railway. He became very much interested in the social and economic history of agriculture, largely because his positions were at country junction points in communities composed mainly of farm workers. When he moved into the city he was attracted to the co-operative movement, principally through the literature distributed by the Fabian Society. In 1897 he helped to organize railway telegraphers and was the first president of the Railway Telegraph Clerks Association formed in that year. From then on he gave special attention to organization and co-operation, as means of improving the lot of the masses.

He came to Canada in March, 1904, with his wife and two children, intending to farm. After working for a time as a laborer near Brandon, and later finding it impossible to get accommodation on a farm with his wife and family, he secured an appointment with the Canadian Pacific Railway in the district superintendent's office in Brandon. In 1908 he became district superintendent's accountant at Saskatoon. He remained there until he joined the staff of the Saskatoon Phoenix as editorial writer in 1911, where he showed special interest in the platform of the Canadian Council of Agriculture. In 1918 he moved from Saskatoon to a farm near Hanley, Saskatchewan, and the following year became a member of the Saskatchewan Grain Growers Association. In 1919 he sold his farm and returned to Saskatoon as editor of the Saskatoon Phoenix. In 1920 he became associate editor of the Grain Growers Guide; in 1925 he joined the staff of the Manitoba Wheat Pool as director of education and publicity, and editor of the Scoop Shovel. The late Mr. Hull also had been secretary of the Manitoba Co-operative Conference since its formation in 1927.

He was associate editor for Manitoba of the Western Producer from 1936 to May, 1947; and was secretary of the Western Agricultural Conference from the time of its inception in July, 1935, until his retirement.

No Famine Reserves Needed

A SPECIAL working party of the Food and Agriculture Organization of the United Nations recommended recently, according to the Northwestern Miller, against the establishment of special famine grain reserves under the auspices of the United Nations for use, where necessary, to relieve famine conditions in United Nations member countries.

The five-man working party included representatives from the United States, United Kingdom, India, Australia and France. This committee recommended that any grain which may be needed from time to time for relief in member countries can most economically and satisfactorily be provided from regular supplies on hand in the various countries and handled and distributed through regular trade channels. The working party was concerned only with the mechanics of handling and distributing such relief grain, and was not concerned with the

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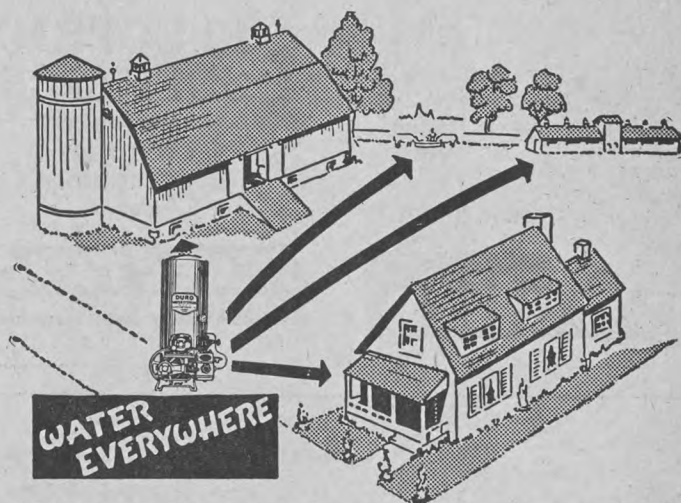
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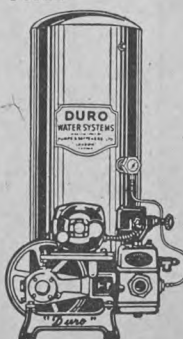


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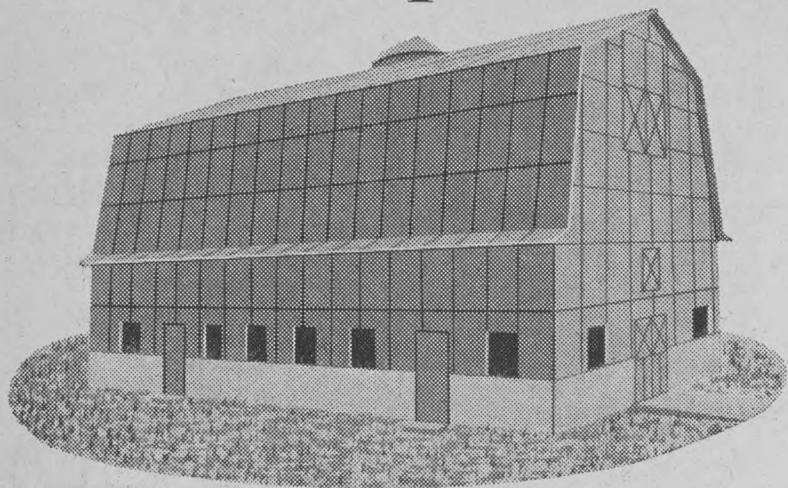
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financial, diplomatic or political problems associated with the question.

The U.S. representative, Carl C. Farrington believed that any program the U.N. ultimately adopts, might be set up to operate within the framework of the International Wheat Agreement, should that agreement be renewed prior to its expiry next July.

Largest Wheat Farmer

QUEENSLAND COUNTRY LIFE recently reported E. E. Smart, Mingenew, Western Australia, as the biggest Australian wheat farmer. He grew last year 300,000 bushels of wheat, and in addition, ran 40,000 sheep.

Much of the land farmed by Mr. Smart is quite poor, and was bought at from 2s. 6d. to 4s. 6d. per acre. Its fertility had been built up during the past five years through the use of lupines grown for nitrogen, and superphosphate. Rainfall is about 16.2 inches per year, but droughts are unknown.

Saskatchewan Harvest

SASKATCHEWAN practically completed the harvest of her huge wheat crop, which had been estimated as high as 425 million bushels, about the middle of October. Excellent weather prevailed for the wind up and L. J. Hutchison, director, Agriculture Representative Service, Saskatchewan Department of Agriculture, reported that a total of 313 combines, 337 trucks and 545 crew members from 13 states were authorized to enter the province to help with harvesting. Visiting harvesters came from as far south as Texas and as far west as Oregon. Some U.S. crews harvested up to 1,000 acres or more, and many others 300 or 400 acres. Outfits ranged in size from one man with a combine and truck, to 11 men and one woman with seven combines and five house trailers.

Australian Costs Higher

THE International Federation of Agricultural Producers reports that on the basis of United Nations cost of living statistics, the cost of living in Australia has gone up more sharply than in any other country since 1948. Using the 1948 figure as 100, the following are the index figures for a number of countries as of March, 1952, in each case: Australia, 162; France, 148; Mexico, 141; Norway, 130; Sweden, 128; New Zealand, 126; Britain, 123; Canada, 122; Denmark, 122; Netherlands, 120; Ireland, 115; Italy, 113; United States, 109; Switzerland, 105; India, 103.

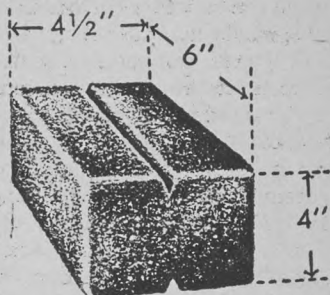
Chinese Farm Taxes

THE People's Government of China on June 16 published new agricultural tax regulations which apply to those parts of the newly liberated areas where land reform has been completed. It is reported that the majority of farmers will pay tax at rates between 11 and 15 per cent of their grain crops, and that the corresponding annual production figures per person range from 350 to 600 pounds.

These regulations mean the introduction to China of typically Communist, centrally controlled, agricultural taxation, based on production quotas. This in turn leads to ever-increasing government control of the farmer. The Soviet system is clearly being imposed on the Chinese peasant.

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Get It at a Glance

125-bushel British wheat yield—billion dollars in Canadian co-op. business—U.S. butter consumption down—Australian food scheme

U.S. farmers and farm co-operatives borrowed 2.4 billion dollars from the co-operative credit system supervised by the Farm Credit Administration of the U.S.D.A., during the year ending June 30. Farmers and their co-operatives owned 180 million dollars of capital stock in the credit system, which was more than at any previous time.

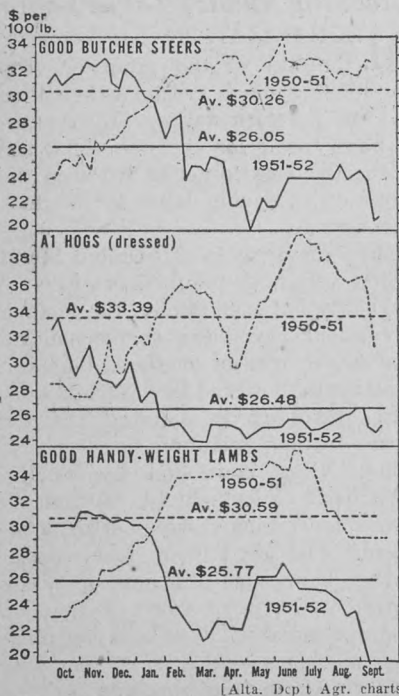
CO-OPERATIVES in Japan now serve about one out of every five persons. Co-ops number 70,000, about half of which are owned and operated by farmers.

THREE English brothers were reported by the International Federation of Agricultural Producers to have produced a record wheat yield amounting to 131.25 bushels of wheat per acre. John, George and William Turrell, King's Lynn, Norfolk, grew 11,176 bushels of Hybrid 46 wheat. The yield has since been fully authenticated at 125 bushels per acre.

LAST year, out of 4,211 known co-operatives in Canada, 2,768 associations reported to the Economics Division, Canada Department of Agriculture, \$1,016,550,971 of total business. This was a decrease of more than \$23,000,000 below the previous year's volume.

THE National Barley Contest initiated in 1946 was confined to Manitoba and Alberta in 1952. Entries up to October 1 numbered 581 from Alberta and 512 from Manitoba, including more than 400 growers who had not entered in any previous contest. Each grower must enter a minimum carload of 1,667 bushels.

WORLD championships for wheat, oats, barley, rye, potatoes, soybeans, corn and forage crop seeds are offered by the Royal Agricultural Winter Fair. Of the 20 international championships contested at the three preceding fairs, Canada has won 17, the U.S. having won the last three corn championships.



These charts of steer, hog and lamb prices show the sharp drop in prices which occurred between October, 1951, and September this year.

A DROUGHT in Yugoslavia has cost an estimated two million tons or 50 per cent of the corn crop. The loss of corn and other crops has been estimated at from 330 to 460 million dollars.

THE C.N.R. have over 26,000 boxcars in service in the western region. Grain can be loaded at 1,007 different stations from 2,327 country elevators. Nevertheless C.N.R. boxcar number 423436, loaded with barley by United Grain Growers Limited at Hubbell, Manitoba, August 21, was moved to Port Arthur and loaded in the U.G.G. elevator there on August 26, moved westward again on August 27, and by pure chance again arrived at the U.G.G. elevator at Hubbell on August 30 where it was again loaded with barley and moved to Fort William for unloading on September 10.

THE Australian Government has announced a five-year food production scheme. A minimum of \$450,000 will be spent during 1952-53 to expand agricultural advisory services to Australian farmers.

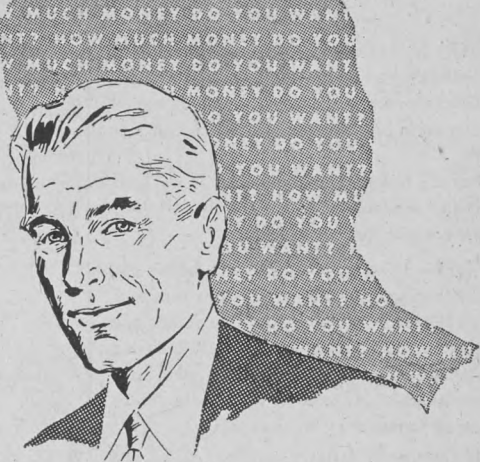
FOR the years 1935-39 U.S. butter consumption per capita averaged 16.7 pounds. In 1950 this figure had decreased to 10.7 pounds; in 1951 to 9.7 pounds and this year it is expected to be 8.9 pounds. Margarine consumption per capita is increasing.

B RITAIN made provision in the Agriculture Act, 1947, for the gradual elimination of bovine tuberculosis from all of Great Britain, by the process of developing voluntary attested herds, and, beginning October 1 this year, by compulsory free testing, and the slaughter of reactors in designated areas. An attested herd qualifies for a milk bonus of two pence per gallon for four years and one penny per gallon for two more years from the date on which it becomes supervised. For beef cattle the bonus is £2 per head for four years, followed by £1 per head for two years.

THE daily press has reported a 2,000-acre alfalfa seed farm as being established about 75 miles south of Flin Flon, Manitoba, by an Arizona seed grower and rancher, W. Wright.

AN interim protein map published early in October by the Grain Research Laboratory of the Board of Grain Commissioners indicated an average of 12.7 per cent for the 1952 wheat crop. This is .9 per cent lower than the long time average of 13.6 per cent, which was also the final figure for the 1951-52 crop year. The final map was expected to show a further slight drop in protein content. Data was based on analysis of approximately 4,600 samples from 1,400 stations in the prairie provinces. Manitoba samples averaged 12.3 per cent, Saskatchewan 12.9 per cent and Alberta 12.3 per cent. No. 1 Northern averaged 12.9 per cent, No. 2 Northern 12.6 per cent and No. 3 Northern 12.6 per cent. The only area averaging higher than 14.9 per cent was just east of Saskatoon.

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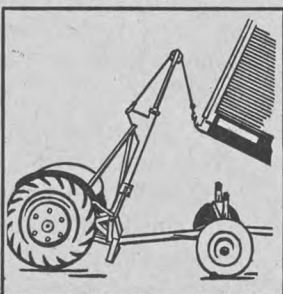
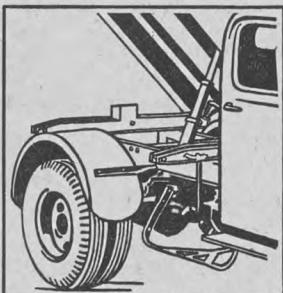
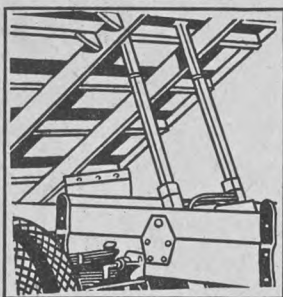
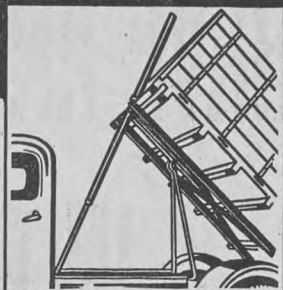
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LIVESTOCK



[National Film Board Photo.]

To apply labor saving equipment to livestock production saves much time and labor, but requires careful operation and adjustment.

Runt Pigs Can Grow

AN experiment was recently completed at the Michigan Experiment Station, in which lots of nine runt pigs each were fed from eight to ten weeks of age, until the heaviest ones weighed from 90 to 100 pounds. Both lots were self-fed, but one was fed a complete mixed ration, and the other corn plus a supplement very high in protein, arranged to supply the same nutrients as were incorporated into the complete mixed ration, which contained 17.1 per cent crude protein.

"Free choice feeding," say the station authorities, "is based on the idea that pigs will, when given a choice of a grain and various supplements, always balance their ration correctly." This idea assumes either that all feeds are of the same palatability, which is of course wrong, or that the pig will eat less palatable feeds because it needs them.

Work in Iowa had shown that when the antibiotic, aureomycin, was used with sufficient "B" vitamins, the combination was superior to skim milk in stimulating growth in runt pigs. In the Michigan experiment, the runt pigs ranged in weight from 12 to 21 pounds. All were typical runt pigs. Before starting on the experiment, they were sprayed for lice and mange, and wormed.

In this test, the antibiotic, terramycin, was used, and each lot averaged slightly less than a pound of gain per day per head. Pigs fed the complete mixed ration, however, averaged 2.08 pounds of feed per pound gained, while those fed free choice averaged 2.76 pounds of feed per pound gained. The free-choice pigs not only ate somewhat more supplement per day, but most of the increase in feed consumed was in corn, because corn is very palatable. The combination of feed they selected averaged only 16 per cent protein, whereas the

complete mixed ration averaged 17.1 per cent protein. Of the protein, 34 per cent came from corn, in which the protein is of poor quality.

At the end of the experiment, the free choice pigs showed far greater variation in size than those on the mixed ration. This seems to suggest that individual pigs differ in the way they select free-choice feeds. Some appear unable to balance their rations correctly when allowed to choose. The pigs on the complete mixed ration proved to be 24 per cent more efficient in converting feed to gain, and presented a more uniform appearance. The station therefore recommends feeding runt pigs a highly fortified ration, including supplementary "B" vitamins and antibiotic in the form of a complete mixed ration.

Cleaning Stables Takes Labor

MECHEANIZATION has come to the aid of the grain or crop farmer to a much greater extent than to the livestock farmer. Right now there is need for the engineers and the gadgeteers to get to work on the question of saving labor in livestock production.

In some areas in the United States where very large numbers of cattle are regularly fed each winter, the feeding operations have been so mechanized that by the use of overhead bins and electrically powered feed carriers, very little handling is required for the entire feeding operation, nearly everything being controlled by electric switches. Unfortunately, not many farms have such convenient arrangements. The larger dairy farms sometimes have the milking operation down to the point where it requires the minimum of labor, by using milking machines and piping the milk directly from the machine to the cooler in the milk house.

Cleaning the stable gutters of manure, however, is generally quite

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another matter, although even here there are several makes of mechanical stable cleaners which, with the turn of a switch, will deliver the manure into a wagon or spreader outside the stable door, where it is ready for delivery to the field as soon as the cleaning is finished.

Tests have been made which indicate that the amount of labor to be saved in this one simple operation is very considerable. For example, it has been calculated that where manure is loaded into a wheelbarrow it will take about 70 seconds per day, per cow, to clean and scrape the gutters. Twenty per cent of this time can be saved through the use of a litter carrier, or where the stable will permit a spreader to be pulled down the center alley. However, if only one man loads the spreader the time required is as much as if a wheelbarrow were used. Where the herd is large enough so that an automatic barn cleaner can be installed economically, the average cleaning time can be cut to 13 seconds per cow per day.

Now a semi-automatic cleaner has been tried experimentally. This is merely a scoop which pulls manure along the gutter and elevates it from the end of the gutter into a spreader. It is pulled toward the loader by an electric winch. When the scoop is dumped, a gear is released and the farmer pulls the scoop back toward him to clean another section of the gutter. The average time per cow per day required with the semi-automatic cleaner is 28 seconds per cow per day.

Carry Livestock Over

AN argument for carrying cattle and sheep over under the existing market conditions has been advanced by H. J. Hargrave of the Lethbridge Experimental Station. Mr. Hargrave points to the fact that in recent years there has been a significant shift in the ages at which many cattle have been marketed. Farmers and ranchers who formerly sold two and three-year-old steers have now been selling yearlings and, he says, "many yearling spreads have arrived at a cow and calf basis within the past two or three years. It would seem now to be an opportune time to carry the calves until they are yearlings and the yearlings until they are two-year-olds, as well as the winter ewe lambs as replacements for over-age breeding flocks."

If a yearling weighs 300 pounds more than a calf, and a two-year-old 350 pounds more than a yearling, really good wintering will widen these spreads. "If fifteen or twenty dollars' worth of feed will winter a steer, and ten dollars' worth of grazing will do the summering," said Mr. Hargrave, "it looks like good business to carry the steer another year, even if prices remain as they now are." A calf can be wintered in good condition on half a ton of hay or straw, in addition to five or six bushels of grain, and slightly more feed will maintain a yearling throughout the winter. Even less feed will be required, if plenty of grass or crop aftermath is available. Consequently Mr. Hargrave believes that if the outlook for grazing additional numbers next summer is not good, the possibility of putting cattle in the feedlot next spring could be considered. In any case, he thinks most livestock producers are in a

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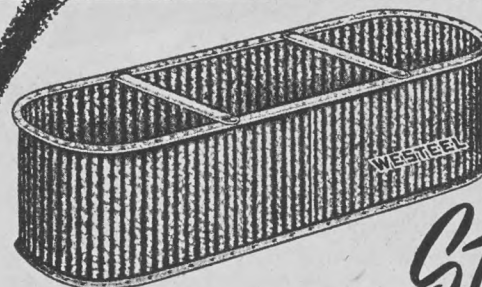
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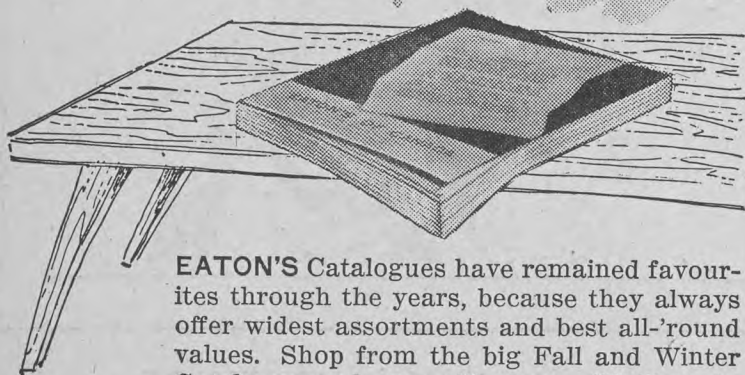
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much better position than they have been many times in the past to carry over additional numbers without seriously interfering with long-range plans.

Milk Tests Always Vary

PERHAPS you have been disappointed when your milk test has varied from one test to the next. If it doesn't change at all, you really should be surprised, unless you are a much more exceptional manager than the majority of milk producers.

Here are some of the reasons why the tests do change:

As the milk production of a cow goes up her test tends to go down. This means that changes in feeding practice may result in changes in the fat test.

In herds of mixed breeds, two or three cows of one breed freshening together may change the test, since the average fat tests of the breeds are approximately as follows: Holstein 3.4; Ayrshire 3.9; Guernsey 5.0, and Jersey 5.3 per cent.

Two or three months after calving, the fat test increases and continues to increase slightly until the end of the lactation period. There may be a difference of one per cent in the fat test of milk between the beginning and the end of the milking period.

Cows that are in excellent condition at calving time may produce milk with an appreciably higher fat content than normal for several weeks.

Fat content of milk changes with changes in temperature: in other words, milk tests higher in winter than in summer.

Fatty feeds or appreciable amounts of cod liver oil may increase or decrease the fat test.

Cows turned to pasture, frequently show a lowering of fat content. Sometimes when the pasture is very lush and watery, the reverse may be true.

The more frequent the milkings the higher the test.

There is a difference in fat content between the first milk drawn and the last, the latter being the richer in fat.

Dairy Herd Improvement

SASKATCHEWAN has had Dairy Herd Improvement in an organized way for more than 30 years. More than 24 herd owners, owning 189 cows, organized the first Dairy Herd Improvement Association in 1921.

When the average improvement in a substantial number of herds is considered over a period of years, the raising of the average butter-fat production per cow per year is found to be a fairly slow process. The results secured in some individual herds through conscientious, consistent effort are found to be much more substantial than in others. The 189 cows tested in 1921 averaged 6,656 pounds of milk, and 235.5 pounds of butter-fat. By 1945—24 years later—the number of herds under test had increased to 186, and the number of cows to 2,396. Their average production was 9,455 pounds of milk and 334.5 pounds of butter-fat. Results since 1945 are not strictly comparable because of changes in the method of computing the average results.

To begin herd improvement testing, a group of from 20 to 24 dairymen in a district are required to form a Herd Improvement Association, of which there are now 11 such in this province. The Saskatchewan Department of

Agriculture employs a dairy recorder, who visits each herd once a month, at milking time in the evening. He weighs and tests for butter-fat the milk from each cow, that evening and the following evening, entering the results in a herd book provided by the Dairy Division. Pounds of milk and butter-fat tests of each cow are entered, and the figures multiplied by the number of days in the month, to find the cow's approximate monthly production. Also kept are a record of the cow's name, certificate number, registration number if purebred, and the amount and cost of food eaten, along with production records of former years, and the names of her sire and dam.

Such records provide the basic information upon which the herd owner can cull out unprofitable cows. The charge made for the service is 15 cents per cow per month for the first ten cows; 10 cents per cow for the second ten cows; and five cents per month for all cows over 20. The dairyman must have at least five producing cows to be eligible for the service, and to pay a minimum charge of \$1.00 per month. He is also required to board the recorder while testing at his farm.

Nutrition and Winter Feeding

QUITE a number of the ills of livestock are really deficiency diseases. That is, the lack of condition, or illness of many animals is caused by a lack of some necessary nutrient in the feed. Many of these instances show up during the winter months.

When cattle are on grass all summer, they can usually get all the vitamin A they require, as well as calcium and phosphorus, although it is generally considered advisable to feed bone meal and salt at all times. When winter comes, there is a difference. Cattle in stables or feedlots are no longer eating green grass, but hay, and often the hay is of indifferent quality. If the cattle are on native pasture or range, they are eating grass that has been cured. Cured grass of the short-grass prairie will carry plenty of calcium, but will be very low in phosphorus and protein. Both of these can be supplied by linseed oilcake fed as a supplement. If hay is fed, the same difficulty will be encountered unless the hay has been put up early, to preserve its maximum quality. Feeding heavily of inferior hay will not make up for the deficiency.

Help with Brucellosis

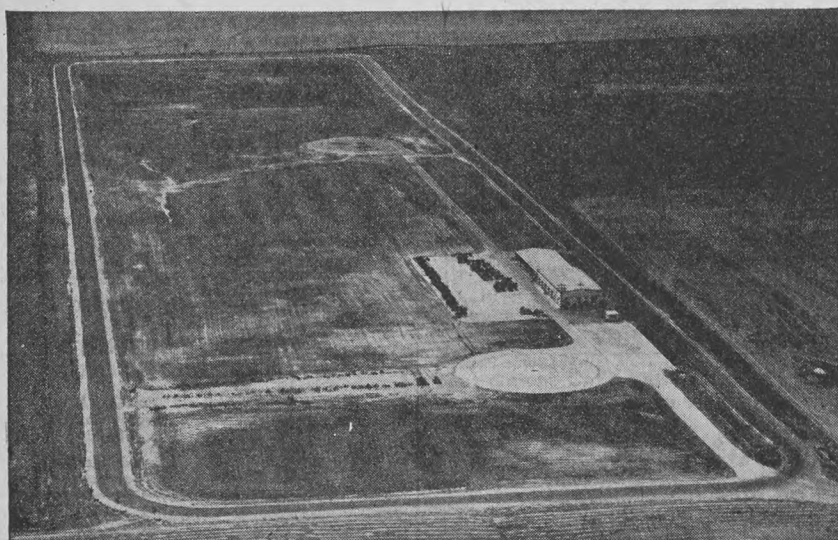
WHEN treating serious animal or plant diseases, any new bit of know-how that research workers can develop, is likely to be very helpful. Research workers at the University of Wisconsin have found a new way of isolating Brucellosis organisms from material which contains large numbers of other microscopic organisms. This is helpful because, in combatting the disease, which is known as contagious abortion, or Bang's disease, the organisms causing it frequently must be isolated for study, from soil, manure or other similar material. This means much labor and time.

Now this isolation can be performed in the laboratory in test tubes and glass dishes. A mixture of antibiotics slows down the growth of the molds, yeasts and other kinds of bacteria, so that the Brucellosis organisms can be discovered more readily.

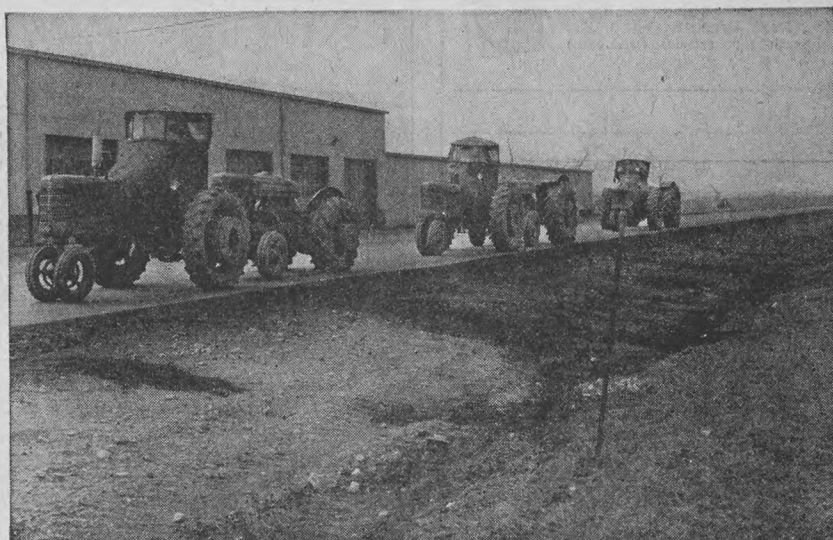
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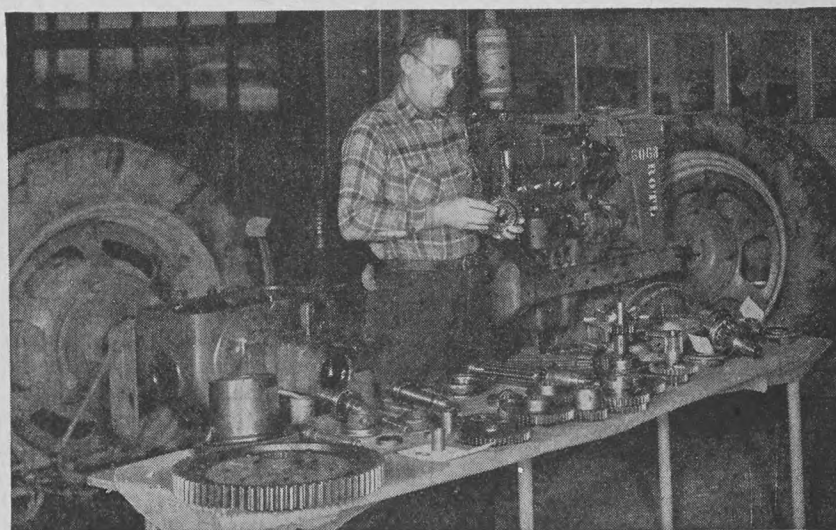
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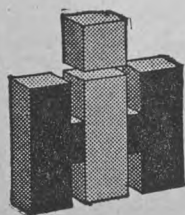
Time intervals of operation in each of the various gears are recorded by electrically operated clocks. Above, a test engineer records data on a transmission endurance test. Detailed reports on each tractor tested are sent to the IH engineering department weekly.



IH test engineers look for trouble! After a tractor has been given the "torture treatment" on the track, it is torn down and checked carefully. Here, an engineer is looking for wear characteristics that will help International Harvester build even better tractors.

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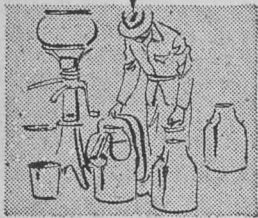
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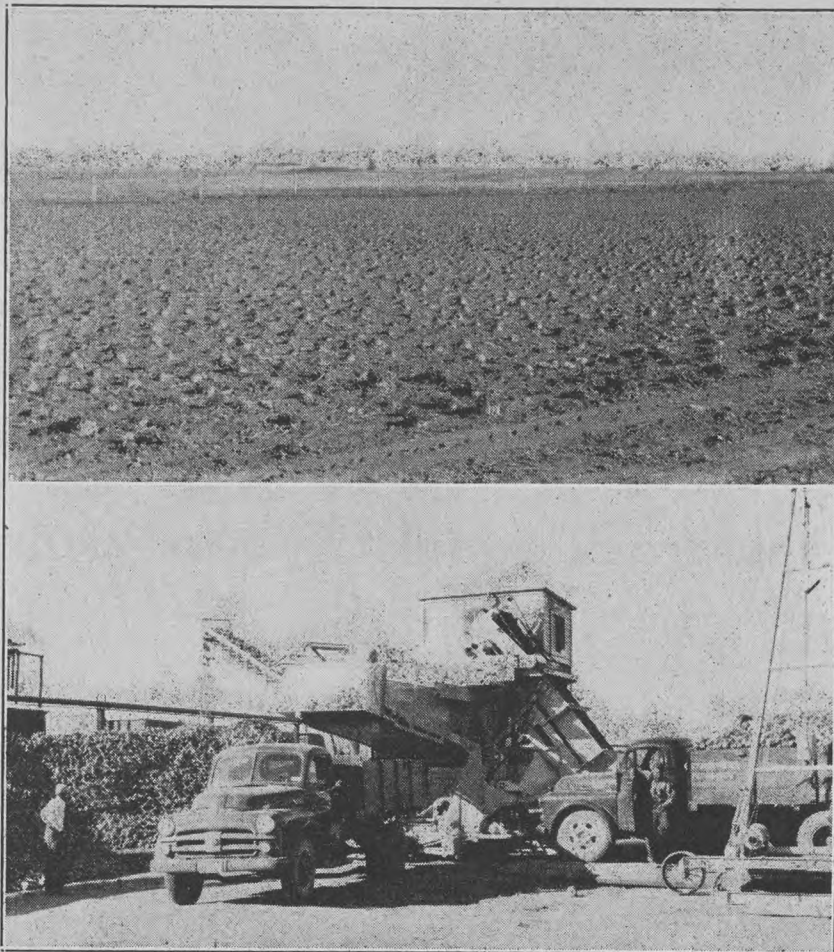
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Top: Sheep topped these beets for A. Briosi, Picture Butte, Alta., saving feed and time. Below: Beets come in fast at Picture Butte after a ten-day delivery halt.

Sugar Beet Problems

An Alberta beet grower tried an idea which would
have worked well in almost any other year

IT is still clear, as it has been to farmers for generations, that a more effective liaison between the farmer and the weatherman would be helpful. If communication between the two were really effective, it would be possible to explain that while bright, hot April weather is wonderful in a year when a large part of a heavy crop has stood out in the field over winter, the same brand of weather is more than inconvenient when the sugar beet crop is partly out of the ground in the fall and when portions of the crop already delivered have begun to spoil from the heat.

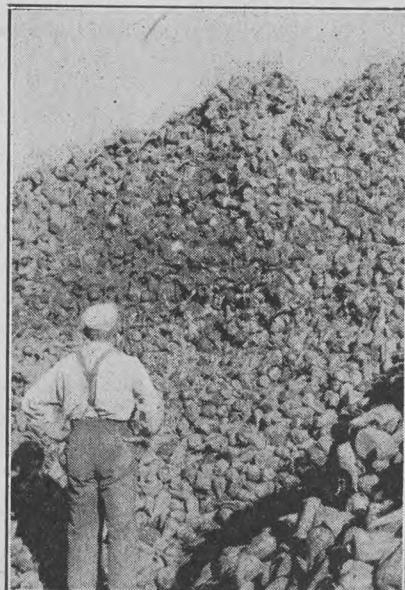
Our seasons are enough alike, as a rule, that growers of crops like sugar beets are generally safe in counting on the beet harvest coming along about the same time each year. If the weather is suitable and the word goes out to deliver, the beets can reach the factory in a rush. Generally the weather is cool and the normal building up of stock piles can proceed safely. This year in southern Alberta it was not so. The beets came in with a rush, but unusually warm weather also developed. After a comparatively short time some of the beets in the piles began to spoil, and a cut-off of the beet harvest was the inevitable result.

A representative of The Country Guide visited the Picture Butte factory on the day deliveries were resumed after a ten-day hold-up. Trucks were converging on the plant from all directions. Every grower in the district was lifting beets and rushing them to the plant as quickly as possible. Many, no doubt, felt that the longer the delay the more likely they were to lose in yield and perhaps in sugar content. Some were caught when

the order came to stop digging, with more beets topped and ready for digging than they cared to think about.

Such a one was Andrew Briosi, who had 25 acres something less than half delivered when the shut-off came. Of special regret to him and of interest to others was the comparatively novel method he had used of taking the tops off his beets. About a week before the beet harvest began, he turned in 200 ewes and their lambs, approximately 400 in all. With very little herding, they had eaten their way up and down strips a few rows wide and had found 25 days' pasturage on the 25-acre field, eating the tops off as slick as a whistle, and seldom touching a beet.

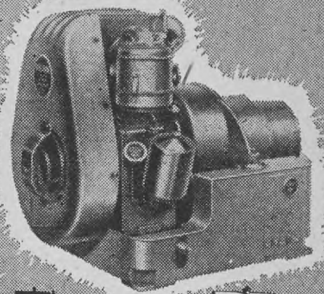
Mr. Briosi, unfortunately, had not



Piled beets heat and spoil in warm weather. Note darker spot above man's head.

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figured on deliveries being shut off—nor had anyone else for that matter. As it happened, his field was clean of tops, the sheep having got them all without wastage, but during the unexpected non-delivery period the tops began to grow again. The result was that there was some loss expected in sugar content and in yield. Another year the sheep can be kept closer to the actual digging operation, perhaps by the use of an electric fence. Cattle, it appears, would not be as safe in a big field as sheep, because they frequently eat the beets, as well as the tops.

Mr. Briosi, incidentally, has a beet lifter of his own devising, which he has patented. He used an old but unsatisfactory lifter, and attached his own lifting device in the form of two rotary



Mr. Briosi's rotary cutting wheels at work on his beet harvester.

cutting wheels. These travel one on each side of the row, but are closer together at the back than at the front. They also slant inward toward the bottom and are bevelled, with a cutting edge around the perimeter. Thus, they lift the beets as they revolve, and being open rather than solid, the dirt can fall through to the maximum extent.

When Mr. Briosi's sheep have finished cleaning the tops off the beets, the top end of the beet must still be removed to get rid of the green stem end. This is done by a machine equipped with a cutting knife, which raises and lowers with the height of the beets in the row, so that each is cut off at approximately the same distance from the top.

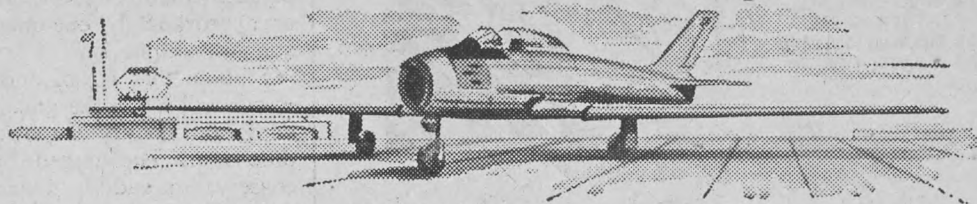
The beet harvesting operation is not yet completely mechanized on all farms. Many still use only a beet lifter which loosens and raises the beets enough so that they can be lifted out by hand and topped with one swing of a sturdy knife. The end of the cutting edge on the beet knife is hooked so that the topper can reach down and pick the beet up with the knife, before grasping it for topping.

Holding Snow Moisture

WINTER snowfall brings a substantial amount of moisture into the surface of the soil, some of which can be retained by farming methods. At Swift Current, for example, the experimental station has reported wide variation in yearly snowfall, ranging from 1.5 inches water equivalent to six inches, or an average over a seven-year period of 4.4 inches of precipitation, mostly snowfall between November and April inclusive.

"In spite of wide yearly variations," the station reports, "the winter pre-

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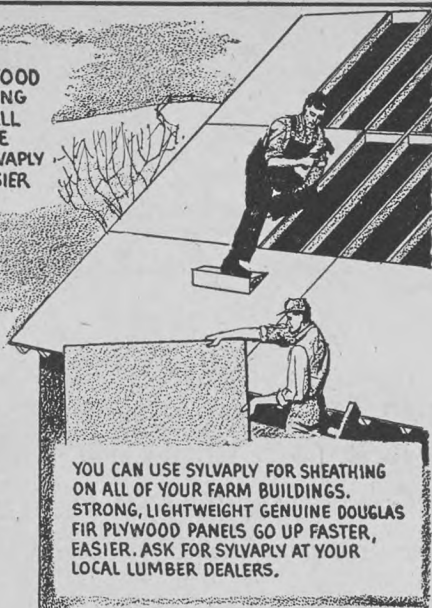
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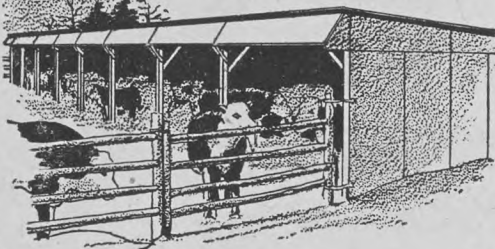
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precipitation was effective every year in stubble fields, whereas in summer-fallow, moisture was conserved in only three years out of seven. The conserving of snow moisture is important in areas like Swift Current, where, over a thirty-year period, snowfall has been equal to about three inches of rainfall or approximately one-quarter of the annual precipitation.

Stubble that is tall and free from weeds will retain the greatest possible depth and density of snow. Such conditions are encouraged by moisture conservation and weed control during the previous season. Trash covers on summerfallow and additional cover on knolls to prevent snow blowing, all help to conserve moisture.

Electricity—A Pointer

MORE and more farms are being electrified, and as this occurs, more and more farm families must become accustomed to the use of this form of power.

One of the kinks which must be remembered, has to do with the occasions when the lights go out, or the power ceases to flow through the circuit and to turn the motors or electrical equipment. The chances are that a fuse has blown out, and must be replaced. Many a worried user of electricity has been baffled when one fuse seems to blow out after another. The cause of the blow-outs which follow the first one is usually quite simple, but most people have to undergo the experience before they realize what has happened.

The fact is that when the first fuse blows out the circuit is probably carrying its normal load, which may involve the use of one or more lights and perhaps several kinds of equipment. When the blow-out occurs these all stop but remain turned on. When the fuse is replaced, everything that was in operation before, immediately starts, including perhaps a refrigerator, pump, water heater, lights, and perhaps a motor or two. When these all start up at once an overload is very likely to develop, although there is no overload when they are operating normally before a fuse has blown out. The fact is that motors often need three or four times as much current to start them as to keep them running. Several motors together with lights and other appliances, all starting at once, cause the overload. The remedy is to disconnect at least some of the appliances while the current is off, and after it comes on again turn the appliances on gradually, so that one motor is running before another starts.

Average Tractor Life

A SURVEY conducted about four years ago by the Bureau of Agricultural Economics in the U.S. Department of Agriculture revealed that farm tractors were lasting about 50 per cent longer than was true ten years before. Factory-made wheel tractors seemed to be lasting about 19 or 20 years.

This was indicated by reports which showed that about 96 per cent of the wheel tractors purchased in 1938 were still on farms in 1948, in addition to 44 per cent of the 1928 tractors, and about four per cent of the 1920 tractors. Part of the reason for this long life was the high wage rate during the war and the small supply of new tractors during wartime. In addition, tractors became obsolete less

rapidly; changes and improvements, while numerous, were less radical than in previous decades. It was noticeable that though the life of farm tractors had increased, this development had occurred despite more hours of use per year per tractor. It was reported that wheel tractors were used an average of 488 hours in 1940 and 634 hours in 1947.

Another factor which made for longer life was that many of the older tractors were in use on smaller farms where there was only one tractor and where the hours of use per year were less than on larger farms. They were also to be found on larger farms where there was more than one tractor, and the older tractors were used for extra power and lighter duties. Under some circumstances the older tractors provided power at a relatively low cost. Annual depreciation was less after ten years of age and the trade-in value decreased much more slowly.

Another important factor in lengthening the life of tractors was the appearance of rubber tires in the late thirties. Tires reduce vibration and therefore tractor wear, with the result that tractor life is increased.

Fall Spreading of Straw

G. R. STERLING, supervisor of soil conservation, Alberta Department of Agriculture, offers a reminder that spreading the straw in the fall when the straw is dry and spreads easily is a profitable operation. He points to the fact that last spring, when many farmers found it difficult to work in the heavy straw cover which had been wet all last fall and over winter, little trouble was experienced by others who had spread the straw the previous fall.

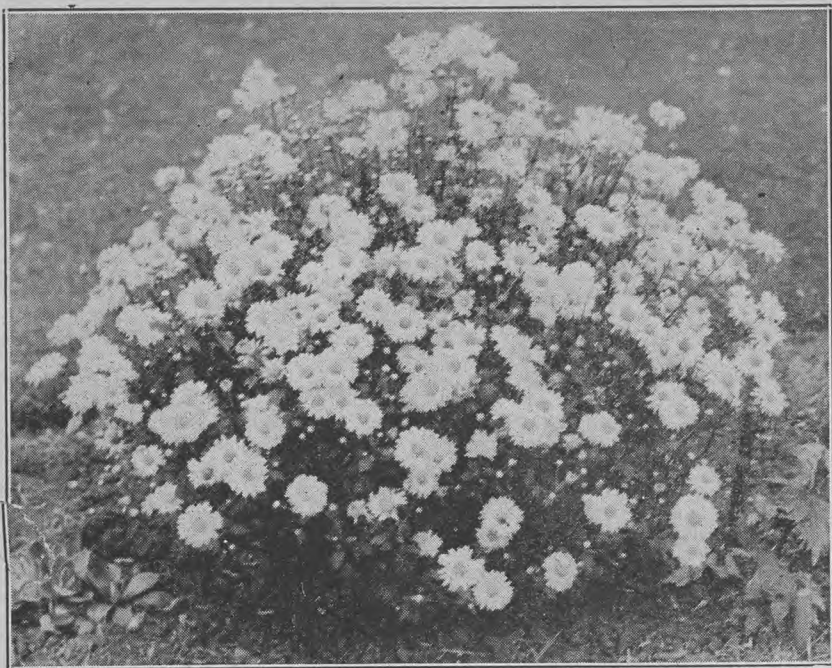
"Straw that has not been completely spread by the combine can be scattered uniformly with oscillating harrows pulled diagonally across the field at an angle of about 45 degrees," says Mr. Sterling. "Ordinary diamond harrows may also be used for this purpose, provided they are hitched high on the tractor or to a high-wheel harrow drawbar. Relatively high tractor speed is also needed to keep the diamond harrows clear of trash. Once the straw is spread, sharp one-way tillers, diskers, or blade-type cultivators are quite capable of working in even the heaviest straw cover."

Grain Storage Leaflet

THE Alberta Department of Agriculture has a leaflet entitled "Emergency Grain Storage," which may be of much value to farmers who are again struggling with the grain storage problem.

The question is raised, in a statement by the department, as to whether farmers should not look forward to the occurrence, fairly frequently, of the grain storage problem. "The high degree of mechanization on the farm," the department suggests, "has made it possible to deliver practically all of our grain crop to the country elevators in a very short time each autumn. Storage and transportation facilities at, and from, the local elevators, cannot handle this sudden surge of grain, and so farm grain storage becomes a regular and necessary feature. Such being the case, though temporary structures may have to suffice this year, permanent grain storage buildings should be carefully considered for many of our farms."

HORTICULTURE



(Guide photo)
Unusually large plant of chrysanthemum which this year bore hundreds of flowers over a period of approximately a month.

Scions for 1953

YOU may be planning to do some spring budding or grafting or perhaps some winter root grafting. Ordinarily the scionwood for grafting, and budsticks for budding are gathered in late winter or very early spring. The important point to remember is that the wood must be dormant at grafting or budding time and must be the newest wood available—produced in the previous season, if gathered in the late winter or early spring, or in the current season, if gathered in the fall. Use only healthy, terminal growth, about a foot in length and the thickness of a lead pencil.

If root grafting can be done, this operation is usually performed in winter and is commonly called bench-grafting. For this purpose, and where the material to be grafted is a little uncertain as to hardiness, the scionwood should be gathered in the late fall, or early winter, to make sure that no winter-killed or injured material is selected, as might be the case if the wood were gathered in the late winter or early spring.

In addition to being dormant, the scionwood or budwood must be mature, for good results. Generally, it is mature after the buds have ceased growth and are plump in appearance. Caution must be used where there is likelihood of the previous season's wood not having fully matured by freeze-up, owing to conditions favorable to late growth.

If gathered during the late fall and early winter, or, for that matter, any appreciable time before they are required for use, scions must be carefully stored to keep them in live, healthy condition, without inducing growth. Scions are usually tied in bundles and buried in a box of moist sand, or in equal quantities of sand and peat: storage in a root cellar or in any cool storage bin with a temperature of about 34° F. is satisfactory. Occasionally, the sand may need to be re-moistened, but excess moisture will cause serious injury by shutting off the air necessary for the respiration of the live wood. Sometimes the cut ends of the scions are waxed to prevent drying, or the wood itself immersed in grafting or other wax,

warmed just enough to make it liquid. Hot wax will injure the wood.

If you have occasion to ship any scionwood, first wrap it in damp newspaper, then cover with waxed paper and give it a good outer covering with wrapping paper. Send it by the most rapid method. If receiving scions, unpack them as soon as received and store them as indicated above. Particular care is required to prevent summer scions from drying out.

Storing Vegetable Seeds

A REPORT from the Experimental Station at Saanichton, B.C., is to the effect that under proper conditions, seeds may be stored a surprising length of time and still produce successful crops. "Failures in germination can often be attributed to old seed which has been kept under unfavorable storage conditions," we are told. "The tomato, for example, is less affected by unfavorable temperatures and humidity than the onion, which is very susceptible to poor conditions."

A test by the U.S. Department of Agriculture is reported which shows that plants from 13-year-old lettuce seed produced heavier heads than when fresh seed was used. It was found that temperature of 80 degrees F. and 80 per cent humidity, brought about almost complete loss of germination in seed samples of 15 different vegetable crops after 36 weeks, while, with a temperature of 50 degrees F. and 50 per cent humidity, germination was unaffected. Good seed storage, therefore, provides comparatively low temperature and low humidity.

Pot Bulbs Now

IF you have some Dutch bulbs which were purchased for spring-flowering in the house, this is the time to pot them. They lose quality and dry out if left lying about too long. Such Dutch bulbs include hyacinth, tulip, daffodil or narcissus, and some of lesser popularity.

Soil is not too important, but it should contain a fair amount of sand. Some peat or leaf soil can be added, but unless barnyard manure is very finely pulverized with age, it should be omitted.

After potting the bulbs, water them



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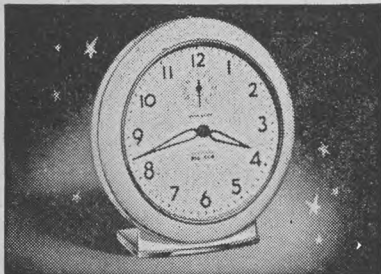
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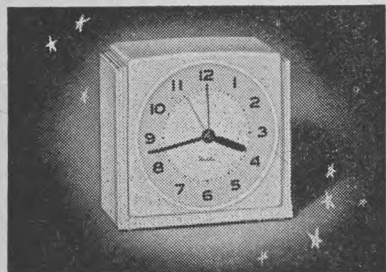
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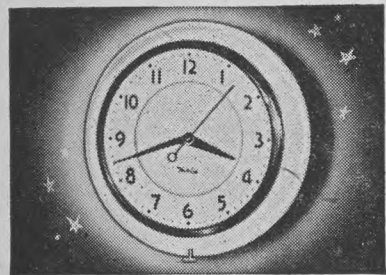
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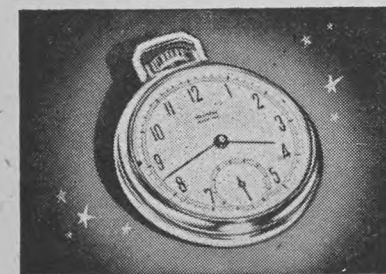
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well and keep them in a dark, cool part of the basement. After six to eight weeks the root system will have developed, if the soil has been kept moist, but not saturated. It is time to bring them into the lighter part of the basement when the top growth is about an inch long. Keep them there until their color changes from yellow to slightly green. At this time they can be forced in a room that is not as warm as a living room; perhaps a hall or a cool window. After the leaves expand and the flower buds appear, they can be safely brought into the warmer temperature of the living room, where they should be kept out of the direct sunshine, to make the blooms last longer.

Raspberry Varieties

SINCE 1941, 22 varieties of red raspberries have been tested at the Experimental Farm at Indian Head, Saskatchewan. Three have been found to have special merit—Ottawa, Muskoka and Madawaska. These grew without winter protection other than was available from natural snow accumulation. After several years of comparison, Chief was able to retain its position as the best variety for general planting in southeastern Saskatchewan. The canes tip-kill slightly in severe winters, but it had the highest average production of any variety, though the berries have a tendency to be dry and crumbly.

Ottawa is almost as hardy as Chief, tip-killing a little more in hard winters. It produces a little less, but the berries are large, bright red, sweet, and with better quality than Chief. Muskoka likewise is almost as hardy as Chief, and has about the same yield of berries that are large, dark red, firm and superior in quality to Ottawa. Madawaska is less hardy than either of the other three, and produces a heavy crop of deep red berries that are full-flavored and excellent for canning and jam. This variety, however, requires a sheltered location or special winter protection if it is to produce annually.

Fertilizer Sprayed on Vegetables

HORTICULTURISTS at the University of Wisconsin have found that nitrogen fertilizers can be sprayed to advantage on some vegetable crops. Among those to which fertilizers have been successfully applied in this manner are onions, cabbage, cauliflower, celery, peppers, snap beans, sweet corn, tomatoes, carrots, parsley and potatoes.

It appears that some plants can absorb nutrients through their leaves, and this fact can be used to supplement the usual fertilizer program for vegetable crops, though not by any means to replace it. During cool, wet weather, sudden shortages of nitrogen sometimes occur and the Wisconsin experimenters have found that urea solutions provide a good source of nitrogen for such periods. They have successfully applied five pounds of 45 per cent urea per acre in 100 gallons of water, on all of the crops mentioned. Carrots, parsley and potatoes, however, can use 20 pounds in 100 gallons.

Minor elements such as boron, manganese, magnesium and iron have been used in other states, especially Maryland and Michigan, in the same way, using only from two to four

pounds per acre of these trace minerals. These minor elements come in the form of manganese sulphate, iron sulphate, and magnesium sulphate (Epsom salts), while boron is applied in the form of borax.

Another advantage of spraying fertilizer on crops, according to the Wisconsin horticulturists, is that the urea, for example, can be mixed safely with insecticides and fungicides, which may be used on the same crops for the control of insects and diseases. It is reported also that urea solutions will not clog or corrode the spray equipment.

Rabbit Repellent

RABBITS are particularly fond of many fruit trees, as well as of a number of ornamental trees and those to be found in windbreaks, such as American elm, Chinese elm, green ash, hackberry and cottonwood. The Extension Service of the North Dakota Agricultural College recommends painting trees with a mixture of two pounds powdered resin in one quart of denatured ethyl alcohol. Not many trees, perhaps, are killed outright by jackrabbits or cottontails, which often eat the bark from the ends of the last year's growth as far up as they can conveniently reach. This means unsightly trees until the growth can be replaced.

It is as well to provide what protection is intended, in late fall, because the rabbits may start working as soon as the snow covers the ground, when their usual food which is available in warm weather disappears.

A Racecourse Lawn

BRITAIN has many famous racecourses, among which Ascot and Epsom are perhaps the best and most widely known. A speaker on the BBC recently described the racecourse at Goodwood as the loveliest of all lying as it does high amongst the downs of West Sussex and presenting a superb view of the English countryside. These races are, of course, run on turf, and Bernard Forbes told the BBC listeners why the Goodwood racecourse has such a fine springy texture, and remains in first-class condition even in dry spells.

According to the head forester of the Goodwood Estate, Robert McKay, the secret of the track's excellence is that 110 years ago, when it was laid down, the first layer of turf was laid face downward, and the second layer on top of it face upward. Later, the furrows of the two layers are said to have knitted together to give a firm resilient finish. It is looked after with the greatest of care.

If the course is wet and soft, and there has been much rain, it is rolled after each race in the opposite direction to that in which the horses ran. Special treatment is given to promote the growth of the grass roots, and botanists say that there are 157 different types of grass and herbs in every square yard of the course. For nearly a century, carefully sifted soil and leaf mold were fed to this turf to keep it in the best of condition. Now, it receives an even richer mixture, in the form of spent mushroom manure obtained from local mushroom growers. Before the annual race meeting, two dozen men are employed in rolling and cutting the course to put it in perfect condition.

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POULTRY

Cockerels such as these should by now have been moved from the range shelters and be in pens or crates for a two to four-week fattening period.

Fitting Cockerels

LACK of finish is responsible for many birds of poor quality being offered to consumers. When poultry are well cared for during the growing period they build a good framework and develop muscles so that flesh and fat can be laid down during the fattening period. The main purpose of fattening, says J. H. Strain of the Scott Experimental Station in Saskatchewan, is to increase body weight, to soften the muscles and to improve the quality. All birds to be fattened should be selected carefully, discarding any that are not healthy and that show such defects as crooked keels and keel cysts.

For the roaster market it is wise to begin fattening at 24 to 26 weeks of age. Work at the Scott station has demonstrated the benefits of crate fattening. This is a result of higher grades as against pen fattening, rather than a faster rate of gain.

Poultry are able to digest feeds that are high in carbohydrates (cereal grains) quite readily; excesses over body requirements are transformed into fat. Comparative fattening tests on single grains rate corn first, followed by oat groats (or hull-less oats), wheat, oats and barley. It was found that a mixture made up of equal parts of oats (hulls removed), wheat and barley gave satisfactory results. Milk is the best mixer, using two parts of milk to one part of mash. If milk is not available, water can be used, though if this is done ten per cent of the mash should be made up of meat meal.

Three to four weeks are required for pen fattening, compared with two weeks for crate fattening. The best time of day to move cockerels to the fattening quarters is in the afternoon, as there is a tendency for them to be quieter and easier to catch. Cockerels should be treated for lice before being moved to the fattening quarters. Feed should be mixed long enough to give the mixer an opportunity to thoroughly soak into the mash. The amount fed should be no more than the birds will clean up in 20 minutes, and any feed remaining at the end of this time should be taken away.

Proper killing and plucking is quite as important as feeding. Consumers discriminate against birds with torn skin or other blemishes.

Clean Poultry Houses

THE disease threat to pullets is reduced if they are placed in a clean, disinfected poultry house. Thorough cleaning and disinfecting destroys parasites and disease organisms carried over from the previous year's birds.



When the laying hens of the previous year are removed all litter, droppings, and other materials should be cleaned out, and the floor, walls and ceiling cleaned with a stiff broom. The interior of the building should be soaked down with a solution of lye and water. Following this, the walls, roosts, floor and fixtures should be scrubbed with hot water and lye. After the woodwork dries, a reliable disinfectant should be applied, with special care to get it into cracks and corners.

The cleansing and disinfecting procedure can be simplified by using a power sprayer. The Experimental Farm, Brandon, Manitoba, uses a power sprayer operated at a pressure of 350 to 450 pounds per square inch. This forces the cleaning and disinfecting solutions into the cracks and corners and does a very thorough job.

Early Hatched Pullets

FLOCK owners who hatch their chicks early are often able to benefit from higher November prices. The early hatched flocks are already in full production. This gives them an added value for commercial egg production in the late fall and early winter months; and added to this they can earn a profit from the production of hatching eggs in the latter part of the winter.

It is not too soon to make plans to have early chicks in 1953. Poultry production facilities should be checked now and accommodation provided for healthy, well-bred chicks as soon as they are available in the late winter and early spring months. Such foresight at the present time will help to increase poultry profits earned next year.

Effect of Environment

EGG production increases are a result of superior breeding methods and improved environment for the laying flock. The importance of environment is demonstrated by tests at the Experimental Farm at Indian Head, Sask., which indicate that the conditions under which fowl are raised and housed has an important effect on egg production.

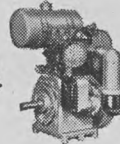
The number of eggs ultimately laid is even thought to be affected by the conditions under which the bird was hatched. This suggests that those who hatch their own eggs should exercise care, and those buying their chicks should select a reliable hatchery. Chick starter fed during the first six

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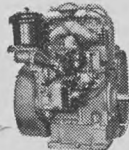
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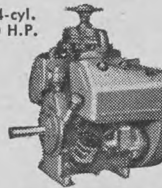
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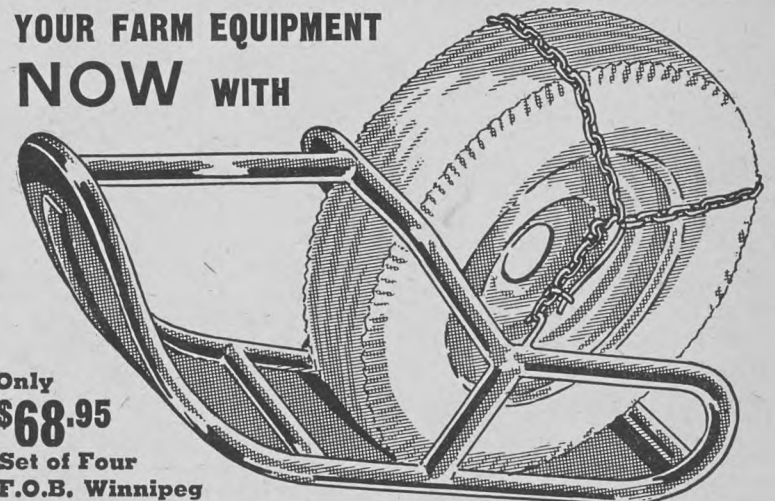
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Weatherproofing and insulation may save over half on your winter fuel bill

Heating engineers have found that weatherproofing is as important as insulation in making a house comfortable and in saving fuel. To make your house weatherproof you may need to do the following:

1. Repair any cracks or air leaks in walls, floors or ceilings.
2. Caulk windows and door frames to make them tight. If walls are brick or stone it may be advisable to remove the staff board around the outside of the frame and caulk between the frame and the wall. (See fig. 1)
3. Weather strip around doors and windows. Metal weather stripping will give the best long-time service. Felt contact strips will do for short-time use.
4. Re-putty loose window panes.
5. Install storm doors and windows.



Fig. 1 Caulking with a plastic compound around windows closes air leaks. The compound is best applied with a caulking gun.

Insulate roof first

If you can insulate only a part of the house, start with the ceiling or roof as it is through these that the largest portion of the heat is lost. If the attic above the heated rooms is unfloored, loose or pour-type insulating material may be spread between the joists with a rake or short board. Provide ventilation by means of an attic ventilator. (See fig. 2a)

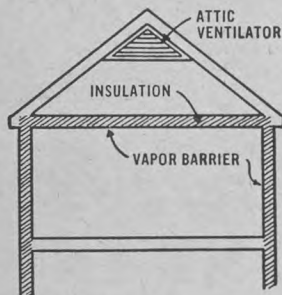


Fig. 2a Unheated attic. Good insulation is required for winter and summer comfort. An attic ventilator carries away moisture.

If heated rooms occupy most of the attic space, insulation will be more difficult. If insulating material is placed between the rafters a 1" air space should be left above the

insulating material and the space ventilated by means of an opening at the cornice. (See fig. 2b)

When you are insulating the walls of an old frame house it is often easier to remove a board and to blow in insulation rather than use blanket or bat type or board insulation.

Brick or stone houses that are already finished are usually the most difficult and costly to insulate. The simplest procedure is to use furring strips on the walls and to apply new interior finish. If pour or blanket type insulation is used, the strips should run up and down the walls. With metallic foil insulation, strips should be run horizontally to reduce to a minimum the height of air space in the wall.

How much insulation to use

The amount of insulation will depend on whether planer shavings or commercially prepared materials are used, and on a number of other factors such as the locality, how well the house is built and what it is built of. Dry planer shavings have approximately two-thirds of the insulating value of commonly available commercially prepared materials.

The first inch of insulation gives a greater percentage saving in fuel cost than does the second inch. The total saving in using 2 or 3 inches of commercially prepared material is, however, greater than for one inch. Because much of the cost of insulating is for labour, it may pay to install 2 or 3 inches while the job is being done.

Proper use of vapour barrier important

A vapour barrier placed on the inner or warm side of the wall or

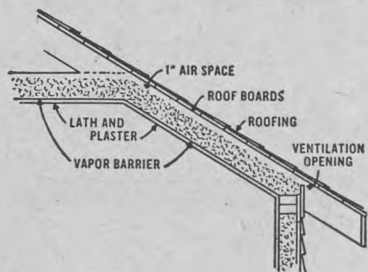


Fig. 2b Heated attic. Insulating material between rafters should be kept away from roof boards. The insulating material is ventilated through an opening at the cornice in this case.

ceiling is essential in keeping insulation dry. (See figs. 2a and 2b.) Damp insulation not only loses its effectiveness in resisting loss of heat, but it may also settle and disintegrate. Dampness in the wall favours decay of wooden parts of the building and may cause paint to peel from the outside of buildings.

Tarred paper does not make a satisfactory vapour barrier. Use Asphalted treated kraft paper or any of a large number of metallic-surfaced materials that are available on the market. For walls that are already plastered, two coats of aluminum paint or special paints made by reliable manufacturers make a satisfactory barrier.

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weeks will give the bird a good start.

The date chicks are hatched is also important. This date is less important if they are raised indoors, and natural light is supplemented with artificial light. However, when birds are reared on range it is desirable to have them mature before cold weather sets in. Hatched late and matured when the days are short they take longer to come into full production. If hatched too early, on the other hand, they may go into a slump after a month or two of laying. Once in the laying house artificial light is beneficial in maintaining egg production.

Extreme changes of temperature in the laying house may cause drops in production. Cold weather for a prolonged period does not have a marked effect on production, but cold weather accompanied by a respiratory disease may precipitate a partial molt and so cut production.

One of the greatest causes of declines in production is disease in the flock. It is advisable to secure chicks from sound stock and to raise them on clean premises well removed from adult stock.

Turkey Hatching Eggs

THE rapid development of the commercial turkey hatching industry in western Canada has opened up a wide market for good quality turkey hatching eggs. For some years a large proportion of this demand has been met by breeders located in areas other than the prairies.

The management of turkey breeder hens for the production of commercial hatching eggs requires more careful planning than is necessary when the flock is producing eggs for use at home. In addition to this these flocks are subject to approval and banding by the provincial departments of agriculture.

Hatcherymen require eggs very early in the season. This necessitates the use of artificial lights and better housing conditions than are usually considered necessary for turkeys. Better housing includes pens which are properly insulated and ventilated.

The profit from the production of hatching eggs can be lost very rapidly through low hatchability. High hatchability is the result of breeding stock selected from high-hatchability parents, as well as from the feeding of well balanced breeder rations.

One male should be provided for each ten hens, with several males in reserve. Experience at the Swift Current Experimental Station has indicated that where breeders are totally confined a minimum of ten square feet of floor space will be required for each bird. Where outside runs are provided less space will be required.

Flock Approval

FLOCK approval work for this year is now nearing completion. Representatives of the poultry branches of the provincial Departments of Agriculture have inspected many of the better flocks and culled the off-type or poor quality birds and approved the remainder for the production of hatching eggs.

Although it is now late for applying for flock approval for this year, those interested in the higher returns from the sale of hatching eggs are advised to write to their provincial Department of Agriculture and make plans for another year.

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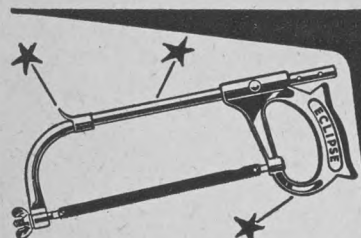
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Workshop in November

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Salt Cuts Soot

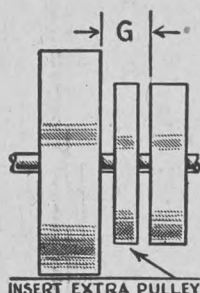
One night my stove gassed badly and, deciding the pipe must be nearly full of soot, I threw half a cup of salt on the hot coals. Two applications corrected the trouble. To be effective salt should be added every few days when stoves and furnaces are in constant use. Even then ashes may collect in the horizontal part of the pipe and need to be cleaned out. You can tell by the dull sound when you tap on the lower side of the pipe if ashes have collected.—I.W.D.



SALT ON FIRE HELPS
CONTROL
SOOT

Safe Overhead Pulleys

Ganged overhead pulleys in the workshop may be a source of danger. If the space "G" between pulleys is one-and-one-half times the width of the nearest adjacent belt and the belt runs off its pulley it is likely to get caught and may be broken or ruined and may even pull the shafting, pulleys and hangers down onto the people below. A pulley placed in the vacant space, as shown in the sketch, will prevent this. The diameter of the additional pulley should be between the diameters of the smaller and larger adjacent pulleys.



INSERT EXTRA PULLEY

If a belt runs off a pulley adjacent to a hanger, or strut, it may wind up and break. This can be avoided by attaching a hook or guard to the hanger in such a way that the belt will run onto the hook if it comes off the pulley.—W.F.S.

Removing Tight Caps

Have you ever had trouble unscrewing the top of a fountain pen or removing the cap from a jar or bottle? An excellent aid in getting hold of such objects is to wind a rubber band around several times, keeping the band tightly stretched while winding. The rubber will provide a grip that will usually enable one to do the unscrewing with but little difficulty.—W.F.S.



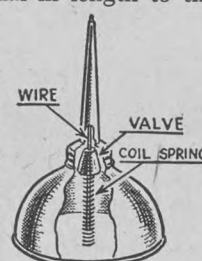
RUBBER
BAND

For Trappers

I do considerable trapping, and have found that a long handled pitchfork is a very handy tool to take along when I run my traplines. I use it for locating an underwater trap, because you can hear the instant it strikes a trap or chain, and you can pull them in without getting your hands in the icy water. It is also good for finding and loosening traps which freeze in or under the ice and can't be found in the fall. I can also pull skunks and muskrats out of culverts and holes and shoot them easily with the rifle.—J.H.R.

Oil Can Valve

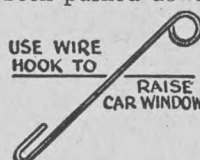
A piece of thin, stiff wire, an improvised valve, and a piece of coil spring, can be used to prevent an oil can from leaking if it is tipped. Take a wire that is equal in length to the height of the can and force a small, tapered wooden valve over it. Remove the spout and insert the wire so that the tip projects. Slip a spring over the lower end of the wire. In use, insert the wire tip into the bearing hole and press down on the can. The pressure compresses the spring, opening the valve and letting the oil run. When the pressure is released the valve automatically closes.—H.E.F.



WIRE
VALVE
COIL SPRING

Raising Car Window

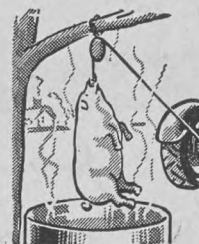
A garage charged me \$2.50 for a mechanic's time to get the sliding panel in one of my car windows to go up and down properly. The glass had been pushed down too far. A simpler and less costly way is to use a piece of heavy gauge wire with a hook in one end and a loop in the other. Lower the wire between the glass and the side of the door, turning the wire so it hooks under the glass. Lift the glass, and by turning the lever which is used to raise and lower it, you will soon have the glass working up and down normally.—A.P.



USE WIRE
HOOK TO
RAISE
CAR WINDOW

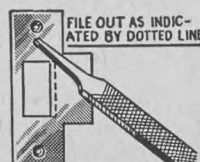
Tractor Helps Scald Hog

I find my tractor very convenient for butchering a large hog with little or no help. After getting everything ready, I kill and bleed the hog, roll it on a stoneboat and pull it to a large tree where a pulley is chained to a large limb. The scalding barrel is placed beneath this limb. I use the tractor to pull the hog up with a hook fastened to its nose, and then lower it into the scalding water until the hair slips. Next I lower the hog and insert the gambrel stick, after which I scald the front end. I can also hold the carcass with the tractor while I scrape and clean it, or slide the gambrel stick onto a supporting pole. I find the wire stretcher useful also for handling the sides and quarters when cutting up.—J.S.M.



Fitting Doors

Doors sometimes have to be banged before the latch will enter the strike. If inspection shows that the strike is too close to allow the door latch to enter, remove the strike and widen the slot with a file. Do not cut away too much or the door will rattle.—W.E.S.



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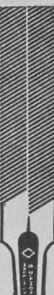
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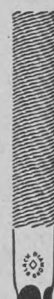
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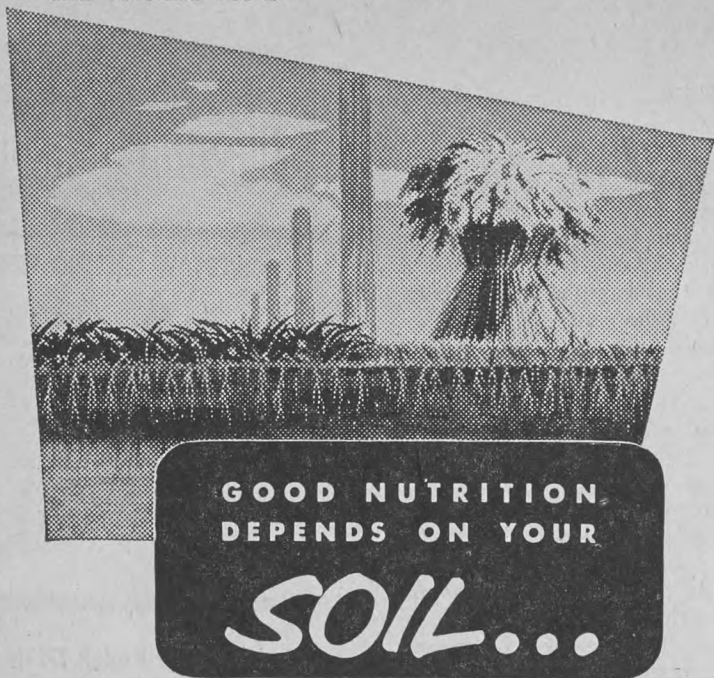
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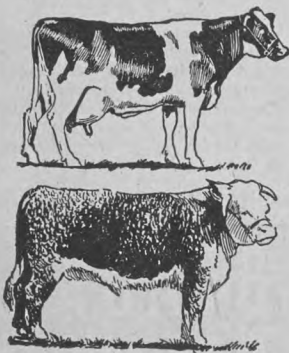
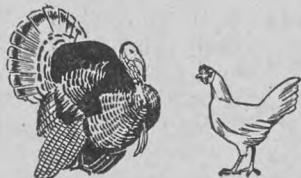
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Today's hens are bred to lay over 200 eggs annually; turkeys to reach market weight 2 to 3 weeks earlier. High quality, balanced rations are needed to realize these potentialities.



Due to modern feeding methods, 15,000 lbs. of milk a year per cow is becoming common; as is a 2.5 lb. gain per day for steers. Although steers and cows are basically rough-age converters, high quality supplements need to be added to their diet, if your herd is to meet these high production standards.

Litters of 10, weighing 40 lbs. each when weaned, and 200 lbs. at less than six months, are the aim of most hog feeders. Such records result from good breeding, feeding and management.



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When Rabies Strikes

Continued from page 7

Surely the different development of rabies displayed by these three dogs illustrates the necessity of veterinary service when unusual behavior is shown by an animal.

We returned to town to try to get the additional dogs that were an absolute necessity if I were to work during the winter. What a change had come over the town! Not a dog was to be seen.

A pronouncement of "positive" had been made concerning the head shipped to Hull by Major Arsenault; and the Health of Animals Division had swung into action.

DR. ROBERT G. FOX of the Winnipeg staff had interviewed the occupants of every house, making a census of the dogs, explaining the seriousness of the situation, and instructing owners that dogs must be tethered or kept on leash at all times, when out of doors. In some cases this had necessitated long walks and several calls before he found the people at home. Dr. Fox had also arranged for the destruction of strays.

Major Arsenault had been flown to Winnipeg for a consultation with the Division and had been given all necessary authority to deal with the situation.

Dr. Kenneth F. Wells, associate director, had been flown to Churchill to check on the thoroughness with which the problem was being handled, and to decide if sufficient could be done by local authorities to gain control of the outbreak. He was again in Ottawa, having flown there to make his report. And eight days before when we left town, the laboratory tests on the head had not been completed!

Dr. Wells flew from Churchill to Ottawa on Tuesday. On Thursday, telegrams were received by both Major Arsenault and Dr. Fox that all dogs must be vaccinated, and that the necessary material would be in their hands on Saturday. Forty-eight hours later the vaccine arrived by plane from the Connaught Laboratories in Toronto.



[U.S. Pub. Health Service photo]
George seems to mind the vaccination more than his dog, Sandy.



This little girl has been given prompt medical attention after a dog bite.

Within three days every dog in the townsite and the adjoining areas had received the vaccine subcutaneously. This had been accomplished by Dr. Fox, ably assisted by Staff Sergeant Duffield of Fort Churchill, working throughout the days and late into the evenings. Two hundred and thirty-eight dogs were vaccinated, most of them brought gladly by their owners to the community hall where a center had been set up. In some cases, considerable time had to be spent rounding up recalcitrant owners who refused to believe the whole affair was anything except humbug. Few of the dogs showed any disposition to resent the treatment. Those that did were, in almost every case, small, pet animals.

Surely such concentrated work is to be highly commended. In the 28 days after the suspect head came into Major Arsenault's possession, 8,000 air miles were flown, diagnosis made, decisions reached as to the best methods to use, the dogs vaccinated, strays dealt with, and considerable education given as to the nature and danger of rabies and the need for keeping all dogs under control.

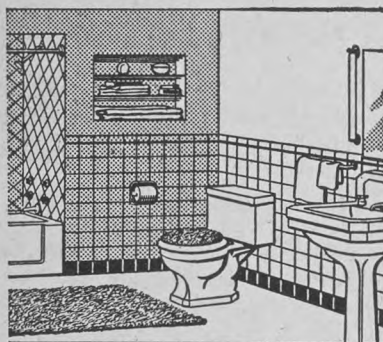
A weak spot in rabies control was evident almost before the train carrying Dr. Fox southward was out of the yards. A number of dogs were running at large. Apparently neither the R.C.M.P., nor the acting medical health officer, had authority to enforce the instruction given at the time of vaccination, that all dogs were to be kept under control for six months. It may be that this was because Churchill is in unorganized territory. At any rate, the law should be amended so that those given responsibility also have authority.

A number of Indians had taken their teams out of town as soon as it was known that all dogs were to be vaccinated. Later, a report from a trader at North River, 40 miles from Churchill telling of sickness among the dogs there, was relayed to the Health of Animals Division. Dr. Thompson of Winnipeg came up immediately, but weather conditions prevailing at the time made travel to North River impossible. A month later he returned and with Major Arsenault

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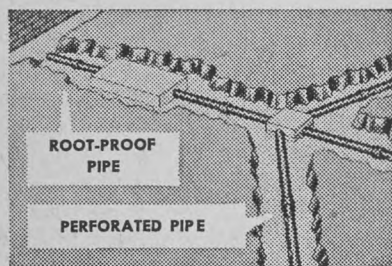
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went by plane to the settlement. There all dogs were examined. None showed signs of rabies, but, as a result of that visit, every team driven into town was vaccinated.

Lack of knowledge concerning rabies is widespread among Canadians. This is readily understandable. Our interest has been dulled by the frequently repeated statement that there is no rabies in any province of Canada. That was true. The guarding of the international boundary and the ports has been thorough. But the authorities have known, for some years, of the existence of the disease in the Northwest Territories. Excellent work in this connection has been done in the Baker Lake area; and the Northwest Territories has been declared a rabid area, which automatically places it under quarantine. This quarantine has been broken by dogs brought from there into Manitoba, doubtless through lack of knowledge.

An excellent paper on the subject of rabies was prepared by Dr. R. H. Lay of Winnipeg and released shortly after the Churchill outbreak. However, the information contained therein has not received the publicity it deserves from either press or radio. Rabies is a deadly disease. Recently newspapers carried a dispatch from Buenos Aires that told of the death from rabies of more than 100 people in a small area, all within 20 days. About 15 years ago an epidemic among people and cattle was touched off in Trinidad by fruit-eating bats that had contracted the disease. Timber wolves are one of the reservoirs of this disease in the North and these animals appear to be spreading south.

Rabies can be contracted by any warm-blooded animal. Dogs are the greatest source of danger to humans, because dogs are allowed much freedom to roam and also much freedom in their contact with people. Who has not seen a dog lick a baby's face? Rabies is not a disease peculiar to warm weather, but can occur at any time throughout the year. It enters the system through a bite, or scratch, and travels along the nerve tissue, not in the blood stream, causing paralysis and finally death when it reaches the brain. It is usually transferred by bites. However, a scratch from an infected source may do it and the saliva of such animal has been proven to contain the virus days before symptoms were apparent. Hence, the wisdom of refusing to allow dogs to show affection by licking people.

Once the symptoms are in evidence, it is too late to begin treatment. Hence the need of flushing the bite or scratch of any animal with hot water and soap and cauterizing it with a suitable agent, such as tincture of iodine, and of immediately reporting to a doctor. This may seem extreme, but after observing rabies in my three dogs, I cannot consider any precaution too great. A woman resident of Churchill who formerly lived in the Midwest of the United States says it is much more terrible in horses and cattle than in dogs; and my wife had rabies in man described to her by a ship's agent, in Trinidad, during the outbreak there.

Rabies is almost never fatal if treatment is begun before the appearance of symptoms. Your medical adviser, with the co-operation of the Health of Animals Division, can decide in plenty of time whether treatment is needed, provided you report to him.

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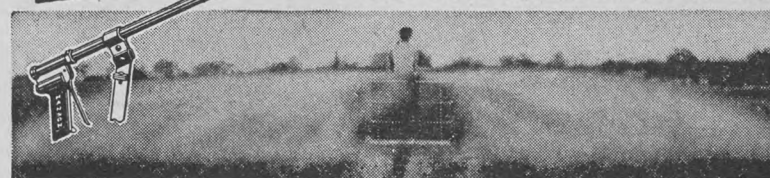
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Quality 4-H Herds

THE Extension Service of the North Dakota Agricultural College has recently been checking up on some of the young people who have graduated from livestock clubs in various counties. They have found that at the present time 95 per cent of the 4-H young people with beef animals are actually engaged in raising breeding stock, and that many who are now past the club age have good herds as a result of their club activities.

Donna Peters started in 4-H work in 1940, with one heifer. In 1947 she became interested in purebred Herefords, and began building a herd. By 1950 she owned 20 animals. Today she and her husband own 40 head, 34 of them registered Herefords.

David Williams of Cleveland is still in 4-H work, but he already owns a herd of 12 purebred cattle and he has plans to expand further. Tony Hoggarth, Courtenay, started his Angus herd with a single junior future heifer which he bought in 1947. He now has three cows, two bulls and two heifers. His sister, Carmen, also started an Angus breeding herd and now owns four cows and two heifers.

North Dakota is satisfied that 4-H work in livestock has been responsible for better livestock and for better stockmen and stockwomen.

A Wisconsin Success

FARM boys from all over the state of Wisconsin will shortly be leaving their farms and homes to attend the 1952 University of Wisconsin Farm Short Course.

This course has established an excellent record. It has operated continuously for 67 years, and during this time over 11,000 students have registered—a yearly average of 164.

The course is designed for boys who do not wish to attend the University of Wisconsin's four-year course in agriculture, but need a background of farm science. There are three courses throughout the winter, each of six weeks' duration; students are encouraged to take all three, though they may take any one if they so wish.

Those in charge feel that many of the farmers of Wisconsin are becoming familiar with the scientific aspects of farming by attending these courses.

Audubon Junior Clubs

DURING the past 40 years nearly 9,000,000 boys and girls have had memberships in Audubon Junior Clubs. The clubs are scattered through every Canadian province, the

48 states of the United States, Mexico, Alaska, Hawaii, and as far away as Johannesburg, South Africa, and Cowra, Australia.

The clubs are organized for nature study. All that is required is a membership of ten or more children, of any ages, and one adult adviser. Clubs have been formed in 4-H groups, Sunday schools and schools.

Often all of the pupils in a one-roomed school will combine to form an Audubon Club. This has sometimes been found a useful arrangement, as nature observations can readily be adapted to the needs of classes in oral English, composition, reading, art and even geography. Added to this, a knowledge of nature and an interest in conservation can provide a valuable common interest for children of different ages.

Detailed information on the forming of Audubon Junior Clubs is available from the Audubon Society of Canada, 177 Jarvis Street, Toronto 2, Ontario.

Birds on the Increase

THE number of bird species to be found on the open prairies has increased greatly over the last few years. Farmers with crops near sloughs are well aware of the increase in ducks, but many people do not realize that this same increase has been registered in less spectacular birds.

Some indication of the increase is given by the observations of Arthur Ward, Swift Current. In a recent issue of The Blue Jay—quarterly publication of The Saskatchewan Natural History Society—he noted the change.

"Never, during the term of our residence here, has there been such an array of different bird species on the miniature lakes which dot the open prairie," wrote Mr. Ward. "Grebes, coots, bitterns, and many others, frequenters of larger waters, are seen nesting a few yards from roadside ditches. There has been an unprecedented number of thrushes."

While photographing a horned grebe's nest Mr. Ward saw a beaver swimming along the edge of the slough. This was a surprise, as the animal was many miles from any natural habitat, and it was finally concluded that it was living on poplars along the water's edge. Such reports suggest that some beaver are also following the sloughs south.

Teamwork



TEAMWORK is the basis of successful co-operation. Working together as a "team," through democratically appointed delegates from more than 300 locals, the 45,000 shareholders and customers of United Grain Growers Limited have watched their Co-operative grow in experience, strength, usefulness and influence.

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Co-operative farm business is recognized as a basic part of our Canadian economy exerting a beneficial influence upon farm income, world economy and world trade.

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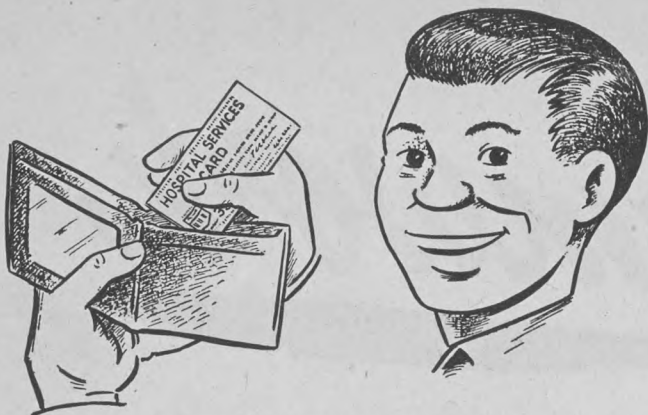
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Steel Snares

An experienced woodsman discusses the use and misuse of snares, employed to outsmart a wily chicken thief or a valuable fur bearer

by BERT WOODCOCK

THE widespread use of snares following the first "Great War," was something of a calamity. Snares were spread wholesale throughout our district and a lot of them, set by irresponsible persons were never picked up. Very few were steel wire, the majority being several strands of haywire twisted together, clothesline wire and even telephone wire.

Coyotes were plentiful. The number held by the odd assortment of snares were few, scores twisted the wire until it broke, leaving a tight band around the animal's neck; there is no doubt many of them died from suffocation or infection. Coyotes were not the only animals caught, dogs and livestock were also victims.

The hue and cry raised by ranchers, farmers and conservation-minded men was entirely justified. In some cases, drastic laws were passed—Saskatchewan as an example. There is no doubt snares left open are a menace to fur bearers, domestic stock and big game animals for several years after.

Used by a careful trapper the steel snare will account for more long-haired furs than any other method with a minimum of danger to livestock or big game. The careless, or lazy trapper who uses snares is little short of a criminal and should be treated as such.

To begin with, trappers bought hundreds of feet of steel cable up to an inch or more in diameter, unraveled it, and used the strands to make snares. Today, cable manufacturers have a cable on the market for the purpose of snaring in different sizes—buy the heaviest for coyotes.

Trappers and others experimented for years with a variety of self-locking devices intended to choke the animal. Some of the original locks were crude affairs, a few worked with fair success, others were total failures. Eventually, from these experiments, a few good locks emerged, were patented and placed on the market.

Regardless of my personal opinion concerning the use of snares, I know hundreds of thousands of them will be set out this fall and winter. Amateur trappers will be using them for the first time, and thoughtlessly, they may set the stage for a lot of needless destruction in years to come.

There are only two logical places to set snares—on trails made by domestic stock or big game animals and on rabbit runs. Local conditions govern the trails. In an area where there is no big game, it's possible snares may be used without endangering livestock. In big game country the trapper usually fells a tree, cut high on the stump, so that it falls over the trail. An opening large enough to permit the passage of a coyote is left over the trail. This is done during the summer. Game animals will go over or around the tree, coyotes and foxes, underneath.

Personally, I see no reason for setting snares on such trails as rabbit runs are usually plentiful and can be used to better advantage.

No matter how conscientious a trapper may be, it's the easiest thing in the world for him to miss several

snares in the spring when it's time to take the snares up. Every trapper—professional or amateur—should keep an accurate record of all snares in his possession. Know exactly how many are set on each line and the exact location of every snare. In the spring, balance the snares against the record. If they don't balance—better go and have another look—a valuable animal may be caught during the summer and livestock is expensive.

Setting snares is not difficult, and requires little special knowledge, which is one reason the use of snares is so widespread. Commercially made snares are to be recommended but they are also expensive. One 100-foot roll of snare wire may be cut into twenty-two lengths suitable for snares. Snare locks may be purchased separately.

I never used commercial locks, finding another method to be equally effective and considerably cheaper. Cut the wire into lengths as above, bind the strands together at each end with a piece of wire. Heat one end of the bundle "white-hot" for ten inches to take out all the temper in the steel wire, burn six inches of the other end in the same way. Make an eye in the ten-inch burned end by bending back three inches of wire; this will allow for three laps and make a good-sized eye. Make a right angle bend four inches from the eye, thread the wire through and the snare is ready to be set.

Find a well-worn rabbit run with a tree two inches or more in diameter alongside it. If there is a little brush to hide the snare, so much the better, but it's not necessary. A coyote is usually trotting along the run, and into the snare before he realizes it. The snare loop will be about ten inches in diameter; hold it directly over the rabbit run, if there is any surplus on the tying end make a wrap or two around the tree but leave about six inches of free wire. Bend this back over the wire and make three or four loose wraps—"timber hitch"—then pull the snare tight against the tree, putting a slight kink in it to keep the wire in place. The snare is then adjusted over the rabbit run by increasing or decreasing the right-angle bend already made in the soft wire.

Coyote snares are set ten inches off the ground. For fox, just enough to clear the hopping rabbits, about seven or eight inches.

The timber hitch will not come untied and after years of experimenting I concluded it to be the most satisfactory method of fastening the snare to a tree. The burned end allows for easier tying.

The eye on the snare, being soft wire, gradually closes as the coyote struggles, when the coyote's neck is encircled by the soft untempered wire the eye will lock so that the loop may still tighten but never release. I lost surprisingly few coyotes with this type of snare, but with those I did lose I had burned the wire too far back and the coyote got the soft wire in his teeth. One word of caution

regarding these burned snares. They should be picked up and stored away each spring; the burned wire rusts easily.

If you must use snares, remember that until a snare has been sprung it is a menace to game and livestock alike. Unburned steel cable will last for years under almost any climatic conditions. Be sure you know exactly how many snares you have and account for every one.

Science Notes

Science May Score Again

CAN you tell by looking at an animal how fast it will grow, or which of two steers will make the more rapid gains? Heretofore, long feeding tests have been the only sure method, but now H. O. Kunkel, of the Texas Experiment Station, is working on a project from the result of which livestock raisers may be able to cut costs of production more sharply than by almost any other means yet devised.

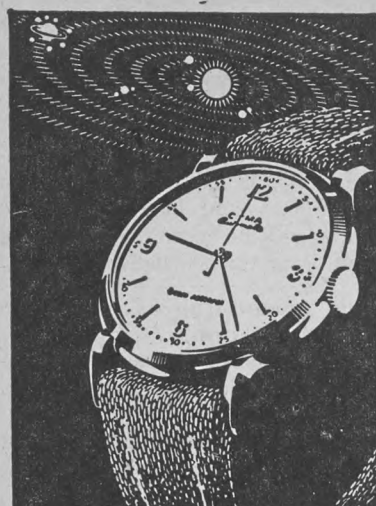
It appears from feeding tests of the young bulls being studied, that the less thyroxine and glutathione in the blood of a beef animal, the faster it will gain. Work is continuing by means of measurements of the rate of metabolism and the charting of the blood enzymes, to check the results so far secured. Nothing is known yet as to whether animals of different breeds perform on the basis of the same blood characteristics. However, if this work eventually proves what it now seems to suggest, it could not only mean a revolution in the breeding methods, but perhaps the purchase of animals for the feedlot on the basis of a blood test to indicate their probable rate of gain.

The Southern States

THE 13 southern states of the United States have a population of approximately 41,500,000, of whom 14,500,000 constitute the farm population. These states are Texas, Oklahoma, Louisiana, Mississippi, Tennessee, Alabama, Georgia, Kentucky, North Carolina, South Carolina, Virginia, Arkansas, and Florida.

In recent years, the agriculture of these states has changed considerably and the physical output per farm worker increased about 40 per cent between 1940 and 1950. Increased efficiency in agriculture has produced better crop yields, and cash receipts from livestock increased from about \$711 million in 1935-39 to \$2,600 million in 1945-49. Cash receipts from the sale of all farm products in the 13 states were \$2,397 million in 1940, and had risen to \$7,677 million in 1949. In 11 of the southern states, the per capita income rose from \$322 in 1940 to \$882 in 1949. For the state of Texas, this increase was from \$413 to \$1,205.

Industry in the south in 1949 employed 3.4 million workers, who produced goods valued at \$42 billion. This compares with 1.8 million workers and \$11 billion worth of industrial products in 1939. The south has about 70 per cent of the United States fertilizer industry, as well as 80 per cent of all U.S. textile mills aside from woollen mills.



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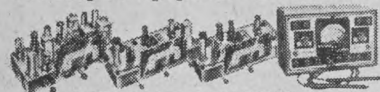
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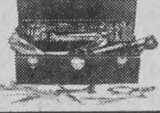
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MONTHLY

U.G.G. Year's Operations Show Substantial Progress

Over 300 delegates to the Annual Meeting of United Grain Growers Limited, held this year in Calgary, November 4 and 5, will have studied the Company's 46th Annual Report, approved or disapproved of a number of resolutions, completed the remaining business of the meeting and returned to their respective homes by the time this appears in print. However, since copies of the Annual Report will not be received by the shareholders for some time, a brief discussion of the year's operations may not be amiss at this time.

United Grain Growers Limited, during the fiscal year ended July 31, 1952, registered the highest volume of grain receipts in its lengthy history, a strong customer endorsement of current Company policies. Financially, also, the year was highly successful. Net profit after providing for patronage dividend, bond interest, income tax and depreciation was established at \$575,000, comparing with \$561,000 the previous year. From net profit an appropriation was made for the payment of a dividend of five per cent on Class "A" shares amounting to \$225,000. This was subsequently paid.

An appropriation of \$950,000 from the year's earnings was made for patronage dividends on grains delivered to the Company's country elevator system. The appropriation for the 1950-51 fiscal year was \$625,000. To a considerable extent this increase reflected the higher volume of grain handlings.

During the year some increase in shareholders was indicated, the number having reached slightly over 47,600. In the same period shareholders' equity rose from just over \$8,000,000 to \$8,584,000.

Capital expenditures continued at a high level and additional country storage space of over 2,600,000 bushels was added to existing storage facilities. In the previous year country elevator storage space was increased by over 800,000 bushels, considerably less than last year but it will be remembered that a 1,000,000-bushel addition was made to the Port Arthur Terminal in that year. Modernization of both harvesting and farm transportation facilities in recent years has greatly speeded up the rate of fall grain deliveries with the result that storage space has been at a premium. Better than average crops too, have increased this demand during the fall months. As a result of these trends, the Company's building program of the past three or four years has been directed toward providing additional storage space at points where it is now represented rather than an extension of activities to new points.

Altogether, the success of the year's operation heightened by reason of the difficulties which had to be faced. Prairie grain producers and their marketing organizations were placed under severe strain throughout the year by adverse harvesting conditions, tough and damp grains and storage and transportation problems. Fortunately the market demand was good and the year's outcome far surpassed early expectations.

In common with other businesses, the grain trade has had to contend

with increasing costs of operation during the past year. Despite this continued trend, it has been possible to refrain from raising handling charges on grain, chiefly because of the high volume of producers' deliveries.

Final Accounting of 1951-52 Pools

The Minister of Trade and Commerce, the Right Honourable C. D. Howe, in an October release, announced the final accounting in respect to the 1951-52 oats, barley and wheat pools by the Canadian Wheat Board. The release dealt only with the oats pool, payment being made first with this cereal grain because the Board's initial payment was not changed during the crop year. However, it was announced that in the case of each grain the Board's operations had resulted in a surplus which will be distributed to producers prior to the end of the calendar year.

The accounting relating to the oats pool showed that producers delivered 133,135,187 bushels to the Board in the 1951-52 period and that the surplus for distribution amounted to \$24,746,258.

In total, producers delivered 83 different grades of oats to the Board during 1951-52. Final payment on the principal grades are as follows:

No. 2 C.W. oats, 18.614 cents per bushel; No. 3 C.W. oats, 18.733 cents per bushel; extra No. 1 feed oats, 18.375 cents per bushel; and No. 1 feed oats, 17.565 cents per bushel. The total prices, basis in store Fort William-Port Arthur, realized by producers for the principal grades, after deducting carrying charges in country and terminal elevators, drying and reconditioning costs, Board administration expenses, etc., but exclusive of the Prairie Farm Assistance Act levy of one per cent are: No. 2 C.W. oats, 83.802 cents per bushel; No. 3 C.W. oats, 80.922 cents per bushel; extra No. 1 feed oats, 80.560 cents per bushel; and No. 1 feed oats, 77.762 cents per bushel.

Mr. Howe stated, that in the main the final payments now authorized represent the Board's operating results for the period between October 6, 1951, when the 1950-51 oats pool was closed, and September 26, 1952, when the 1951-52 oats pool was closed. In winding up the 1951-52 oats pool, it was stated, stocks of oats amounting to 17,396,603 bushels which had been sold but not finally priced on Sept. 26 were transferred to the 1952-53 pool.

Prospects for Canadian Wheat

Government statisticians of the Dominion Bureau of Statistics indicate that Canada faces the prospect of holding a large quantity of unsold wheat at the end of the current crop year. Estimates place the quantity of Canadian wheat available for export and carryover this year at approximately 728,100,000 bushels, the highest in our peacetime history and substantially above last year's 569,400,000 bushels.

Potential Canadian supplies are estimated at 888,100,000 bushels comprising the current estimated harvest of 675,000,000 bushels and a carryover of 213,100,000 bushels. Domestic wheat requirements are placed at 160,000,000 bushels leaving 728,100,000 bushels for export and

COMMENTARY

carryover. Assuming that export sales will run about equal to last year's 357,000,000 bushels, the carryover would be in the neighborhood of 370,000,000 bushels.

On the world scene, the Bureau forecasts a 1952 production of 7,150,000,000 bushels of wheat, a figure well above the 6,480,000,000 of last year and the 1935-39 average of 6,020,000,000 bushels. It was also indicated that above average production in Europe might pare imports in that area.

A further disturbing feature of the present situation is the fact that the United States has some 852 million bushels of wheat available for export and carryover. In some years, large quantities of U.S. wheat have been fed to livestock but in more recent times this quantity has dropped considerably because of the relatively high price of wheat in relation to corn and other feeds. In the 1951-52 wheat marketing year, about 105 million bushels were fed to livestock, 32 million bushels of which were imported from Canada. Since the quality of the 1952 crop is generally higher than in 1951 the tonnage fed in the 1952-53 feeding season is not expected to be materially larger than in 1951-52.

On the other hand, possible total U.S. wheat and flour movement for the 1952-53 crop year has been estimated at 300-325 million bushels, substantially below the 470 millions exported in 1951-52. Just how much of this expected decline in U.S. exports would be made up by exports from other countries is difficult to estimate. With high yields in almost all importing countries it is probable that only a small portion of this will be required from outside sources.

Despite the prospects of high productions in importing countries and a probable substantial carryover of wheat in Canada, the picture can scarcely be termed gloomy. Fortunately, the current crop is one of above average quality with respect to grades and weights. Trade estimates place 65 per cent of the crop in grades No. 1 or No. 2 Northern while a further 20 per cent may grade No. 3 and No. 4 Northern. Average bushel weight is expected to be higher than any year in the past 20 while the yield and color of flour will be excellent in the top grades.

Protein content, as may be expected in years of high yields, is slightly below the long-term Canadian average of 13.6 per cent. Protein quality, however, and related handling properties of the dough are well up to average and, in spite of the lower protein content, bread quality has been found to be surprisingly good.

The high quality of the crop should be encouraging to foreign buyers, following as it does two years of lower quality production. Canadian Wheat Exports Standards are recognized throughout the world for their reliability and accuracy, an important factor in encouraging export sales of high quality wheat.

The quality and geographic location of exportable quantities of wheat have a great bearing upon the demand which it receives. While a new record has been established for world wheat production it should be remembered that much of the increase has occurred on the North American continent.

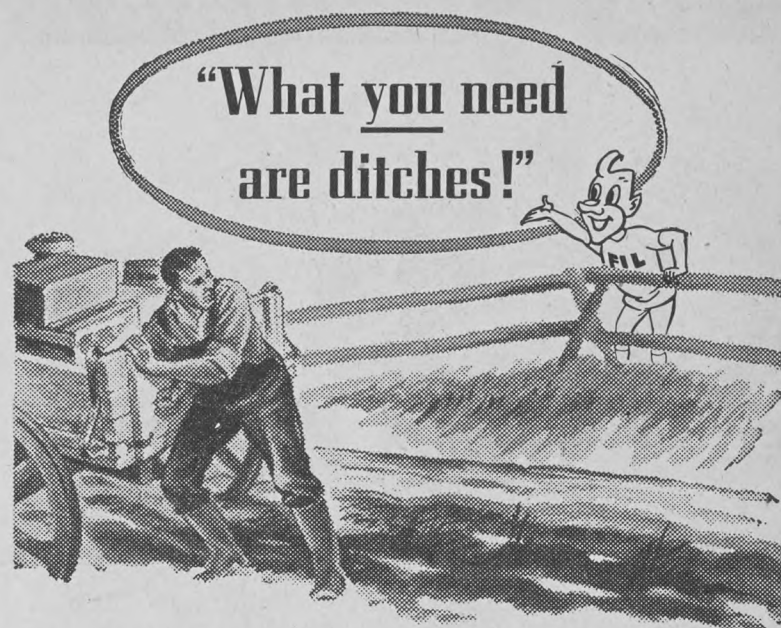
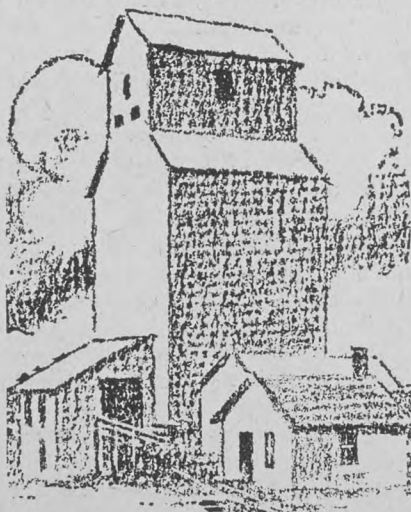
European production, while it has increased by five per cent barely keeps pace with population increases. Asia's wheat harvest is only slightly better than in 1951, South America's about average and Australia's probably somewhat less than in 1951-52. For a number of countries, better crops this year mean simply that slightly more food will be available to augment a near starvation diet. Bumper crops in such areas have little effect upon the demand for Canadian wheat.

The greater part of exportable stocks of wheat available to world trade outside of Canada, and therefore likely to offer the greatest competition to this country, is in the United States. While this is a factor of some considerable importance, much of the exportable stock is winter wheat. Too, fall seeding conditions have been somewhat unfavorable in the winter wheat belt of the U.S. It may well be that the prospects of a wheat carryover, from a Canadian point of view, warrants little pessimism.

Demand for Canadian wheat is firm and exports to date this year, despite the shortage of great lakes grain cargo space, are running well ahead of last year's record. Great Britain has agreed to purchase at least 115,000,000 bushels of Canadian wheat, or wheat in the form of flour, under the International Wheat Agreement in 1952-53. In view of a smaller crop in the U.K. this year and an apparent refusal of the U.S.S.R. to enlarge her grain trade with the U.K., the latter may quite probably purchase more than the agreed 115,000,000 bushels from Canada. For the crop year 1951-52 she agreed to take 113,000,000 bushels under I.W.A. but actual purchases amounted to 124,621,000 bushels with an additional amount at Class II, or world prices.

Since the war, Canadian trade has expanded very substantially with a number of wheat deficit countries. Canadian imports from such countries provided them with exchange required for purchases of Canadian grains. Trade with such countries—Belgium, Italy, Germany, Japan, etc., is likely to continue in considerable volume and as a consequence we may expect to retain them as customers for Canadian wheat.

In any case, export sales of Canadian wheat should show no decline from last year and may in fact show some increase in the 1952-53 crop year. The chief limiting factor is likely to be one of transportation, rather than a decline in demand.



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Tanya

Continued from page 9

Her mind was unusually keen and in times of trouble they still sought her counsel and help. It made her feel important and useful; that the food and the kindness they gave her was not charity but gifts of gratitude.

She had looked at Martha with suspicion and hostility when she first came, regarding her as an usurper who wanted to take the Old One's place as the head of the tribe. But Martha had proved herself a weak, helpless woman in time of need, when the strong should show their strength, the night her boy lay at death's door. The Old One had come and Martha leaned on her that night and the Old One knew then that she was still the head of the tribe in Pelican and became her friend.

She sat rocking back and forth and watched Martha with admiration. She was strong in the face of death was Miz Matavish.

The Old One, who had outlived all her 12 children, most of her grandchildren and had stood beside the graves of five of her great-great-grandchildren, knew the sorrow that parting brings. She folded her gnarled and blackened hands over her cane and looked with piercing eyes at her friend.

"Last night, White Crane dreamed," she said huskily, "White Crane saw your son with the bright hair."

A look of pain crossed Martha's eyes. For once she did not want to listen to the old woman's dream, but she could not hurt her feelings and she said, "Indeed?"

"Yes, he is well. He was not alone."

"Who was with him?"

"A maiden—a maiden with hair as black as a raven's wing."

"A maiden? Are you sure, oh wise one?"

The old woman nodded. "A maiden with hair as black as a raven's wing," she repeated.

"Your son clasped the maiden in his arms. There was joy in his face as he looked over her shoulder and smiled at White Crane."

"Tell my mother," he said, "tell her, White Crane. Do not weep, my friend, he has found happiness."

"If I could only believe that!" Martha whispered in English. "If I could only believe it!"

The old woman rocked gently back and forth, her black eyes watching Martha. To weep was good. Let Miz Matavish weep. It would heal her sore heart.

Martha wiped her eyes and looked at the Old One. To this strange old woman death was no longer sad or terrifying, for she had stood on its threshold so long she seemed to have caught a glimpse of the beauty of the Country Beyond and knew there was nothing to fear. Was she really a link between the living and the dead, belonging to both yet not entirely to either? Could she see what the eyes of the living could not?

"Soon the Great Spirit will call the soul of White Crane to join her people in the Happy Hunting Grounds," the old woman said softly.

"Ah, no, Old One, don't you leave me, too. I could not bear to lose both of you."

The Old One grinned with pleasure. Miz Matavish had said it at last. She admitted that White Crane was the

stronger. White Crane was still head of the tribe of Pelican Bay, and would be until the day of her death.

Then Martha said an astonishing thing. "Where is your pipe, Old One? I'll make us some tea and you can smoke as you always do."

The Old One drew out her pipe and filled it. In deference to Miz Matavish she had intended to forego that pleasure, but she had brought her pipe in her apron pocket just in case. If Miz Matavish did not mind, she would smoke. She lit the pipe and puffed at it contentedly, rocking gently back and forth in the rocker.

TANYA sat down at the desk and drew out the writing paper to continue her letter to Evelyn. It was laborious and tiring to write with her left hand and took such a long time, so she wrote a little every now and then, adding to it at odd moments, until McTavish came to take it to the *Northern Queen*.

It was humiliating to labor over the words like a child in the first grade and to look at the finished letter and find it almost unreadable, the lines wavering up and down like a toboggan slide no matter how hard she tried to control her fingers.

Tanya eyed the page and sighed.

"Yesterday McTavish came over and told me that Phil was killed in a plane crash. I saw him in London several times and he seemed so virile and alive, I find it difficult to think of him as dead."



"There goes a good example of the old saying about a fool and his money are soon parted!"

A cool breeze blew through the open window and flapped up a corner of the paper. Tanya reached for the ink-well to weigh it down, glancing at the river as she did so. For just an instant she thought she saw a canoe gliding swiftly over the water but when she looked again it was gone. She turned back to the letter.

"I intended to see Martha today, but when McTavish told me there were people coming almost every hour, I decided to wait awhile."

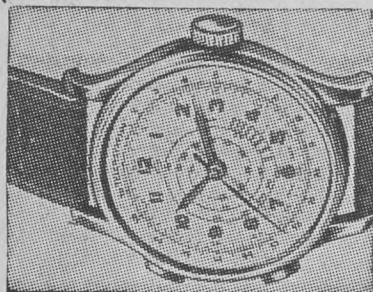
She stopped, frowning a little and listened. Was that scraping sound a canoe being pulled up on the bank?

Tanya got to her feet and peered out. When her eyes grew accustomed to the darkness, she could just barely make out the pier below. There didn't seem to be anyone around. She must have been imagining things. She sat down again and picked up the pen.

"I had a strange visitor the other day, a tiny little Indian woman. I'm certain she must have reached and passed the century mark long ago. She brought me a fine whitefish. She stayed and had tea with me, and had

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a long conversation in Cree that, of course, I could not understand. Perhaps you will recognize her by the description."

Tanya put the pen down and rubbed her cramped fingers. A lone seagull screamed in the night. Seagulls flying inland meant rain tomorrow. More rain meant staying indoors with nothing to do. Perhaps tomorrow she would go with McTavish to the Hatchery, providing, of course, that there were no other visitors. But would Martha want her to come? Their last meeting was rather a painful memory, for her at least, and probably for Martha, too. That tongue-lashing she had given her on the pier just before she sailed on the *Silver Spray* lingered in her memory.

She thought of Martha's face, distorted with indignation and rage, of herself, standing stiff and aloof, saying nothing, while inside she was sick at heart at the thought of what might have been but could never be now, torn by emotions she only half understood.

Martha's parting words came back to her now. "I hope some day, Tanya, you will suffer the same humiliation and torment you've put Joe through, and I hope I'll be somewhere around to see it!" Her voice was almost venomous.

Martha's words, almost a curse they seemed now, had followed her through the years. Martha had not mentioned torture and fear, and despair. That, too, she had known.

She thought with growing apprehension of the visit to the Hatchery. She had no liking for Martha McTavish, most likely the feeling was mutual, and it would be only an uncomfortable ordeal for them both. Somehow she would get around McTavish and call it off without offending him. McTavish would never have said the words Martha flung at her. He may have had the same thoughts in mind but he would never have uttered them, for McTavish shrank from hurting anyone even if he deserved it. Enough of this, she must get on with the letter.

"Don't worry about me, Evelyn. I do not feel at all lonely. Sometimes I have the strangest feeling that I am not alone, that there is someone watching me."

Tanya had no idea how literally true her statement was, that at that very moment someone was standing outside the window scarcely six feet away, watching her face in the lamp-light.

The pen scratched on and on.

"One night I woke up from a bad dream, feeling rather nervous. I couldn't go to sleep again and I got up intending to stay up, but after a little while I felt better and I seemed to hear someone say, 'Got to bed Tanya.' I went, and fell asleep feeling comforted and protected. It was strange I never thought of it at the time but the next morning it seemed to come back to me. Of course it must have been overwrought nerves, because there wasn't a soul around, but it did the trick. It's the first time I've been able to go back to sleep after a nightmare, and I slept dreamlessly all night and far into the morning."

She put the pen carefully down, not daring to look up at the window. Something inside her mind whispered "Someone is in the shadows outside that window. Someone is watching you."



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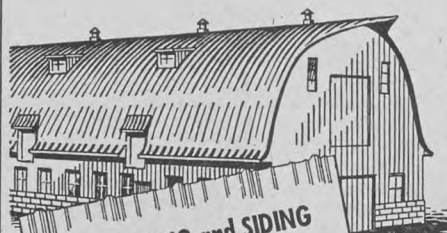
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Tanya's heart pounded with fright. Oh this was nonsense, utter nonsense. Who would be there like a thief, in the night, watching her? She sat still and waited. She heard no sound, but she could not concentrate on the letter. She forced herself to push it under the paper-weight, put the pen back in the holder and close the ink-well.

She got up, trying not to hurry, walked into the kitchen and turned the key in the lock. The grating of the key sounded loud. She stood there and listened. There wasn't a sound outside. Surely she was mistaken.

She went back into the living room and closed the windows, pulling the drapes across. No one could look in now. The room seemed very quiet, too quiet. Tanya pulled out the gramophone, picked up a record and put it on.

"When the golden sun sinks in the hills." She had forgotten what record she last played.

Joe, standing outside, listened and remembered. That song—he had been with Tanya when he heard it for the first time. She had laughed when he wanted to play it over and over again, listening with his face wrapt and dreamy. He had been conscious of the girl seated beside him as he had never been before. She had flushed when she looked up and met his dark eyes,

learned the meaning of happiness and love, humiliation and hate. One phrase repeated itself over and over in his mind. "Though the road may be long, in the lilt of a song, I forget I was weary before."

They hadn't dreamed then how long the road would be. Eleven years was a long time. He turned and fled from the sound of the music, lifted his canoe off the bank, pushed it on the river and paddled swiftly away.

McTavish met him at the gate.

"You been on the river, Joe? Did you see Tanya?"

"Yes."

McTavish sighed.

"You know now," he said heavily. "'Tis a terrible pity."

They walked up the path into the house. Joe led the way to the living room.

The older man's eyes searched his face. It was unrelenting and cold. Joe still hated her then.

"Don't judge her, lad," he said slowly, "she's had enough to bear without you askin' for your pound of flesh too. I resented her comin' here myself, thinkin' only of what she'd done to you, but I don't resent her any more. I feel sorry to see her so changed and I'd give anythin' to be able to help her."



"SET ME ON THE STOVE, MA, THIS WATER IS GETTING COLD,"

flushed and stammered uncertainly. "That's—that's just a silly song, Joe. Let's play this one." She put on another record and Rudy Vallee crooned, "If you were the only girl in the world, and I were the only boy."

At sight of Tanya's chagrined face then he had laughed out loud. "That's wonderful, Tanny," he whispered. "I had no idea you felt like that." Rudy Vallee was cut off in the middle of his song and the gramophone was silent.

But from that time on their relationship had changed, both of them knew it, yet neither would admit that their friendship was ripening into something sweeter and richer. They had both been a little afraid. Yet he had only to hum the tune and the flush crept up Tanya's cheeks, her eyes grew secretive and warm.

Then that night on the cliff they had both stopped pretending. He had come through the forest singing that song, meaning every word of it. She had been waiting for him on the cliff.

Joe listened now to the song he had grown to dislike intensely. It was interwoven through his memories of that summer, the summer he had

He looked sternly at Joe. "If you're aimin' to pay her back, Joe, keep away from her. I promised George I'd do what I could to help and I mean to do it, even if it causes bad feelings between us."

Joe grinned. "Don't worry, Mac. She doesn't even know I was anywhere around. I saw her through the window and that was all. I have no intention of having anything to do with her, now or at any other time, so you can rest easy. She doesn't mean a thing to me."

McTavish drew out his pipe and looked shrewdly at the proud face of Joe Quincey. "Oh doesn't she indeed?" he thought. "She means enough for you to go walkin' several miles at night with a canoe on your back just to catch a glimpse of her face. You were damned annoyed when I caught you comin' back. She means somethin' to you, Joe, but you won't admit it, even to yourself."

Aloud he said, "I'm glad that you ain't carryin' any grudge against her."

"I found out she was here the night of the storm." Joe's voice was casual. "I went down to the river and saw a

light in the Lodge and was almost certain the Winspears wouldn't be down at this time of the year, and I wondered who it could be. A few days later I saw her. Does my father know she's here?"

"No, I saw no reason for tellin' him. He doesn't like her and he's got a fiery temper once it's 'roused. I didn't want no trouble.

"Do you know anythin' about what she's been doin' these last years?"

Joe's dark eyes kindled. "No."

"Well, she went in trainin' for a nurse after she left here and worked in a hospital in the States. She signed up when war was declared and went over with the first bunch. She was in one of them islands when the Japs came." His lips tightened. "She was a prisoner for five months."

That boy in the military hospital. Joe knew now why she had reminded him of that boy. The expression on her face, those staring sightless eyes, her actions, they were identical.

"A prisoner for five months," McTavish repeated. "You can guess what happened to her there. She got away and they sent her home. She couldn't stand bein' home, havin' her old friends comin' to see her, and goin' away shocked and full o' pity. So she came here to Pelican to get away from everybody. I know that George and Evelyn are afraid that she may be driven into takin' her own life. It would be easy enough to make it look like an accident. An overturned boat found floatin' in the river and her body driftin' up on the lake and that would be all. Nobody'd question that and

there'd be no unpleasantness for her people. That's most likely what will happen if she can't make herself forget.

"I been to see her often since she came, but I'm out of her generation and I haven't lived through the horrors of war and she feels that we are far apart and I can't reach her. She needs someone her own age to associate with, someone who's gone through the same experiences she has, or similar ones, and knows and understands without bein' told. Phil could have helped her, but Phil is dead.

"So that's the story of Tanya Ellis, as far as I know it, up-to-date. What happens now—well, I guess that lies with the merciful Almighty. I ain't layin' any bets, but I'm scared she's losin'. The odds are all against her."

He could not see the face of the man seated opposite him. What his thoughts were, McTavish could only guess. Knowing Joe and what he had felt for Tanya, knowing what she had done to him, McTavish could not be sure what Joe's reaction would be to the story he had just heard. Was his hatred so deep-rooted that nothing would ever kill it? Would he feel that Fate had stepped in and evened the score between them and he could rest now that he had been avenged? It was hard to say. There were hidden depths in the soul of Joe Quincey that no one had ever glimpsed. He was not like his father, kind when kindness was needed, just and stern in meting out deserving punishment, but never vindictive or seeking revenge. Nor was he like his mother, a gentle woman.

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They would both have forgiven Tanya, but their son could not.

It was not very surprising, when one thought of it, that Joe's reactions might be entirely different from those of his parents. In his veins flamed the blood of a thousand ancestors, Scotch and Cree. Some had been unrelenting, primitive people, allowing nothing to stand in the way of revenge. Some had been gentle women. Some had been ruled by hate, others by love. All these people with their warring natures struggled for mastery in the mind of this man who belonged to them all.

McTavish had no way of knowing how Joe felt, or what he was thinking. He would have been surprised had he known that through Joe's mind ran the words of the song he had just heard Tanya play.

"Though the road may be long—"

HE had not known how long and how hard the road had been that Tanya had been forced to travel. A prisoner. They had each gone a long way on roads that had taken them to distant lands, a road that took eleven years to travel, then it had led them back to the beginning, back to Pelican Bay.

Was there such a thing as Fate? Were some things meant to be? Were people's lives laid out in a pattern that they must follow? Were he and Tanya and indeed all people just pawns in a mighty game of chess, pushed about by some great invisible hand? If such a thing were true, it made man a very poor thing. All decisions good or bad, were not to his credit or discredit because he was merely following out his destiny. Where, then, was there any justice in the uneven administration of the good things of life?

No, there was no fate and no predestined destiny for any man. It was mostly a big game of chance, with luck thrown in for good measure to give hope to mankind. It was chance that made the Winspears select Pelican River as the site for their summer camp. It was chance that he met Tanya; and so on, right through their lives. Chance brought her here now, and luck had brought him back alive. It was just a coincidence that their paths should cross again.

He heard McTavish cough and looked up. He had forgotten McTavish was sitting here.

"I don't think you need worry, Mac. If she lived through the ordeal of a prison camp without taking her life, she won't do it now. She's suffering from reaction and she needs time to adjust herself. Here there is nothing to remind her of war, or any of the things she's trying to forget. She'll go back to her old life in a very short time."

McTavish looked at Joe with mounting anger. Nothing to remind her indeed. What about her hand? Go back to her old life with one hand to work with—a left hand at that?

Joe saw the scorn in his face. "You don't believe me? I've seen a lot of boys, Mac, and girls, too who had gone through the same experience as Tanya and they've made the grade. Then why not she?"

McTavish stood up and thrust his pipe with an angry gesture into his pocket. He'd best get home before he said too much and the way he felt right now he'd say a whole lot too much.



I was just reading about another big barn burned down the other night. All the hay and grain and some pigs, chickens and machinery went with it. Luckily, the cattle were saved. But even then the insurance didn't nearly cover the loss.

It's an old story, I suppose. Fire started when wind-blown embers lit on the barn roof.

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"I guess you'd feel cheerful as hell yourself, my boy if you'd had the four fingers of your right hand chopped off one by one, wouldn't you? Well, that's what they done to Tanya, them dirty little yellow Japs, because she wouldn't tell how she had helped an airman—an officer like yourself—escape."

Joe said nothing. He hadn't known about her hand.

McTavish picked up his hat and slammed it on his head.

"Good-night, my boy, and happy dreams to ye," he said with cold fury and left.

Angus had awakened at the sound of murmuring voices. When he heard the door slam he got up and went to the living room and looked in.

Joe was sitting there with his head in his hands. If McTavish had seen his face now, he would not have termed him cold or inhuman.

His father heard him whisper over and over again—"Tanya—Tanya—Tanya!"

Angus turned and went back to his room as noiselessly as he had come.

Joe sat without stirring for a long time, lost in thought. He had been



deeply disturbed by McTavish's story. "She helped an airman—an officer like yourself—escape."

The accusing voice pounded relentlessly, unmercifully, in his mind. And all the years he had been hating her, she had been giving her services to men like himself.

"She just needs time to adjust herself." His own voice echoed those words. Time—would time wipe out the memories of suffering? Had time wiped out his own? No, it had not. Softened it, yes, but there were some things one could never forget. Was it like that with Tanya?

"They chopped off her fingers, one by one—one by one."

"She needs someone to help her—Phil could have helped her, but Phil is dead."

That left Joe, and Joe was alive, Joe who had hated her for years—Joe who could not forget, who did not want to forget, the wrong she had done him.

It was very late when he got up and went to bed.

ANGUS looked at his son across the breakfast table and wondered if he had not imagined the scene he witnessed the night before.

Joe looked his usual self, and he ate heartily. Who had been with him and what had transpired between them?

"Ye had a visitor after I got t'bed."

"Yes. Mac came over."

"What did he hae t' say?"

Never before had Angus quizzed his son and he felt ashamed at doing so now, but an urgency he could not explain prodded him on.

"Nothing really," Joe replied. "He was lonely and dropped in for a chat. He feels pretty badly about Phil."

Angus knew his son was not telling him the truth, for McTavish had slammed the door in anger.

Angus sighed.

"What are ye plannin' on doin' to-day, lad?"

"I think I'll visit Fleetfoot. I feel in a mood to renew my acquaintance with my Indian ancestors."

Was there a sneer in his voice when he said that? Angus could not be sure. Long after Joe had gone, Angus sat at the table, lost in thought. There was no use asking McTavish what had happened for he would lie as readily as Joe. McTavish had brought some news of Tanya Ellis, but what that news had been he would probably never know. The face of Angus Quincey was stern when he went into the store to serve the first customer.

JOE was surprised when he stepped into the cabin of the *Rover* to find Willow sitting there. She stood up, twisting her handkerchief in her hands.

"Joe—I had to see you. I just had to see you," she said.

"What about, Willow?"

Willow bit her lip. He wasn't giving her much help. All night long she had tossed about composing a speech, but somehow it eluded her memory.

"About what happened yesterday—about Johnny, I mean. He don't mean nothin' to me. Honest, we are just friends."

"Johnny loves you, my dear, and you know it. I like Johnny, and Indian or no Indian, he's too nice a guy to be given the run-around by his best girl. Whether you marry him or not is your business, but let me tell you, Willow, you'd be a fool to pass up a fine chap like Johnny."

Willow pouted. She hadn't come here to be preached to.

"Johnny, Johnny! I don't want to talk about him. I want to talk about us. I want you to be friends with me again. After all, what did I do that was so bad? I just let you kiss me. Surely that's not a crime?"

Joe laughed.

"Of course we are still friends. I'm sorry about the kisses, Willow. I'm afraid I was making you pay for something you had nothing to do with. Now let's forget the whole incident, shall we?"

Willow's eyes flashed. "I can't forget—I don't want to forget those kisses and you needn't be sorry. I'm glad we're still friends. Will you take me for a ride in the *Rover*?"

"Some other time. I'm going south to visit Fleetfoot and you wouldn't enjoy that at all. He's just an Indian you know."

Willow watched the *Rover* speed out of the harbor then she walked slowly to the Hatchery. Martha greeted her cordially and set about making tea. She looked shrewdly at the girl's downcast face and asked, "What's wrong, Willow? You look peaked this morning."

Willow sighed. "I didn't sleep much last night, Martha. I was thinkin' too hard I guess."

Martha chuckled. "Then you must be in love. Is it Joe?"

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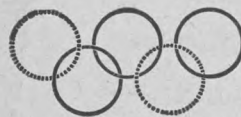
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"Why yes, Mary. It's easy to tell it isn't powdered skim milk like so many of the others."

"Oh, my. I thought all powdered milks were the same."

"Not on your life! Why, my youngsters notice right away if I use other powdered milks—say they aren't rich and creamy like Klim."

"Oh, look, here on the label—it says Klim is pasteurized whole milk in powder form. That's what makes the difference."

"As I said, Mary, Borden's Klim has the cream in it. I wouldn't be without it. So easy to store, and it stays fresh for weeks after you've opened the can."

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so you can catch the 3:15 train, I think it is, and we'll meet you at the station at seven o'clock. I remember how much you like your coffee, Doris, so I made sure we have plenty on hand—Red Rose Coffee of course. We've never had any other brand in this house since you first advised us to try it. You certainly were right when you said that Red Rose Coffee is as good as Red Rose Tea.

"Yes, but a lot of good that will ever do me. Angus doesn't like me and he'd never let his son marry the daughter of Pelican's town bum. I tell you, Martha, it sure hurts to have people lookin' down on you for somethin' you can't help."

"Yes, dear, it is a shame. But you needn't worry about Angus. He would never interfere with Joe's happiness. He didn't before, although I have a hunch he didn't like the girl. This is a matter for you and Joe to decide, not Angus."

Willow looked up. "What girl?"

"Oh, it happened long ago when Joe was just a boy. He fell in love with a girl from the summer colony. It didn't last long but Angus has never forgiven her for throwing Joe over. Maybe that's why he mistrusts all girls. I'll put in a good word for you with Angus. You'd make Joe a good wife. You're neat and clean. You can cook and sew. All those things are important in marriage. I'm sure Angus won't hold it against you that you're Pierre Lebatt's daughter."

Joe decided to be honest with himself. He didn't want to have anything to do with Tanya Ellis. He didn't want to see or speak to her, and the sooner she left Pelican Bay the better he'd like it. So Joe arrived at a definite decision but it brought him small comfort.

It was late when he returned home to find his father sitting in the dark living room.

"Yer home, lad," Angus said as he eased himself out of the chair. "Did ye eat supper?"

"Long ago. How about you?"

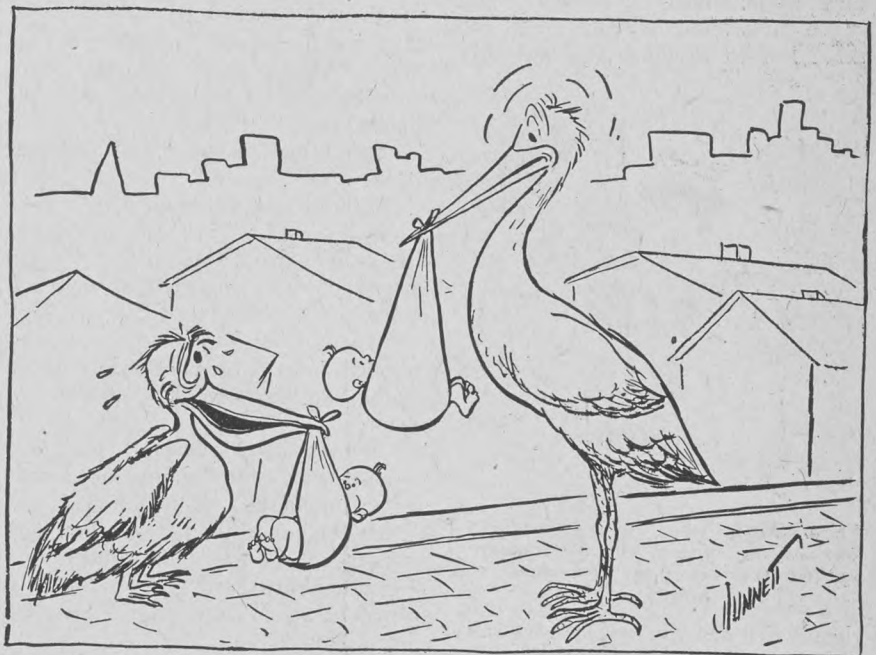
"I wasna' hungry," Angus replied. "Well I think I'll be gettin' to ma' bed. 'Tis a bit late for an auld man like me."

Joe lit the lamp and looked at his father. He was suddenly struck by the pallor of his face.

"Dad, aren't you feeling well?"

Angus sighed. "I'm a wee bit weary, but it's nothin' to be alarmed about. Good night to ye, lad, sleep well."

Joe watched him as he left the room. Angus moved slowly as if he



"How did I get roped into this . . . I'm a pelican!"

Willow went home feeling pleased with her morning's work. Joe had promised to take her out again and she had won Martha for an ally—and Martha's opinion counted with Angus. Yes, she had spent a very profitable morning. Now all she had to do was win Joe again. She'd never give up trying. She'd die before she gave him up.

JOE headed south to the point, unaware that Martha McTavish was busily engaged in arranging his future. His thoughts were with Tanya and what he had learned about her the evening before.

He thought about Mac's unspoken request, that he befriend Tanya and help her as Phil would have done had he lived. But it would have been easy for Phil who had no bitter memories to combat.

Why should he of all people be expected to help the girl who had warped his life. Why should Mac expect Tanya's tragic story to wipe out the years of bitterness he had experienced because of her. As far as that went, why should Mac suppose that she would accept any friendly help from him. Nothing had been fundamentally changed in the past eleven years. He was a half-breed and she was white and because of that they parted.

found every step an effort. Joe's anxiety mounted. His father looked ill. He listened as Angus prepared for bed and when he heard him settle down with a deep sigh, he sat down in the rocker and took out his pipe. He felt too wide awake to go to bed, too dissatisfied with himself to relax. Tanya's face as he had seen it through the window floated before him; the sound of her weeping echoed in his ears.

He would never be entirely free from Tanya, for he had once loved her, and those one loved became a part of one's very being, even though love died as his had done. The hatred he had felt all these years was born of that love and bound them together.

He could not feel indifference to Tanya; he could not convince himself that he owed her nothing. Others had helped him and he had not been able to repay them. Madame in France, the Czech soldier and countless others—strangers whose names he had not even known. Did he not owe it to them to help Tanya now? Was the gallantry they had shown to die with him?

"Do unto others" was the law of life one could not ignore.

Joe moved restlessly about as he battled with himself in the darkness.

A dull thud coming from the direction of his father's room sent Joe leap-

ing to his feet. He pushed open the door of the bedroom to find Angus lying on the floor.

Joe knelt beside him and raised his head. The old man's breathing was labored and difficult. He was conscious but seemed unable to speak. Joe lifted him up and laid him gently on the bed.

Angus seemed in great pain. His face was grey and contorted, his hand was pressed over his heart.

"Father, what is it?"

Angus opened his eyes and looked at his son. "Look—in," he panted, "the top drawer." Then he moaned and closed his eyes. Joe opened the drawer and found a bottle of capsules. "Two every hour when necessary,"

read the label signed by Dr. McNulty. He shook out the capsules and gave them to his father who seemed to rest easier after a moment. Joe felt his hand. It was cold. He wrapped the blankets more closely around him, filled a water bottle, put it at his father's feet and sat down to wait. Tanya was forgotten in this alarming discovery. His father had a bad heart.

JOE realized for the first time how old and frail Angus had become during his absence. Never once had he made any reference to his illness in the weekly letter he had never failed to write, although many a time he must have been ill, and writing been a burden. Adversity and sorrow had

left their mark in his face, in the deep furrows that edged his mouth, in the silver of his hair, but through it all, the strong, courageous will of Angus Quincey had carried on in silence to spare his son.

Angus had known loneliness and loss and it had served to deepen his understanding of others, whereas it had made his son bitter and aloof. Joe realized that he would never be as fine a man as his father.

Toward morning, Angus was resting quietly and Joe went into the kitchen to make himself some tea. At nine o'clock he went into the store to serve groceries to Mrs. Shorting. She was surprised to see him there, and

shook her head when he told her the reason.

"Your father has been ill many times since you went away, Joe," she said. "He had a very bad attack when the telegram came that you were missing. That was when Kathleen came and stayed for a long time. Any excitement or worry seems to bring it on."

The door opened and closed quietly and Joe looked up.

"Hello, Johnny." Johnny Ottertail looked levelly at him. Joe felt sorry for the boy. His hard young face reminded him of his own after Tanya left.

"What can I do for you, Johnny?"



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"Three pounds of tea, please." Johnny's voice was distant.

"Look, Johnny," he said, as he handed the tea to the boy, I want to apologize to you about Willow."

At the sound of her name a flame leaped in Johnny's eyes, and he turned away as if he had no intention of listening.

"I had no idea Willow was your girl, Johnny. If I had known it I would never have taken her out on the boat. What you saw that day you met us had never happened before and it never happened again. I learned then, from Willow, that you and she had been more than friends before I came and I haven't taken her out since."

Johnny's eyes, when they met his, were scornful. He laughed and walked out without replying.

Joe sighed. Coming home hadn't been as pleasant as he had anticipated. Already he had lost two friends, Johnny and Ralph, and probably the third, Mac.

Martha came over after lunch. She had heard from Mrs. Shorting that Angus was ill and Joe had been up all night.

"You go to bed, boy, and I'll stay here with him," she said. "I've often stayed with him during these spells and I know what to do. He'll sleep for hours now."

"Oh, I'm not so tired, Martha. I don't want to bother you. You've enough of your own to contend with."

"It isn't any bother. I want to stay. It takes my mind off other things and it does me good. Now, run along with you, Joe."

Joe kissed her lightly on the cheek. "I was going to get you early this morning but he managed to tell me about the capsules. I won't worry as long as you are here. Thank you Martha, and I don't mean just for today, but for all the years since I was a kid. You know, you're the only mother I ever had."

Martha's eyes blurred. In a way she had always felt that he was her boy but she had never known before what Joe's feelings were toward her. He had never said much.

"Oh get along with you," she said briskly, "or I'll forget you're a man now and chase you off."

Joe laughed and went off. He knew Martha, and he knew that he had pleased her.

JOE took his canoe to the river with no other object in mind than to take a dip and paddle for a while and come home and go to bed.

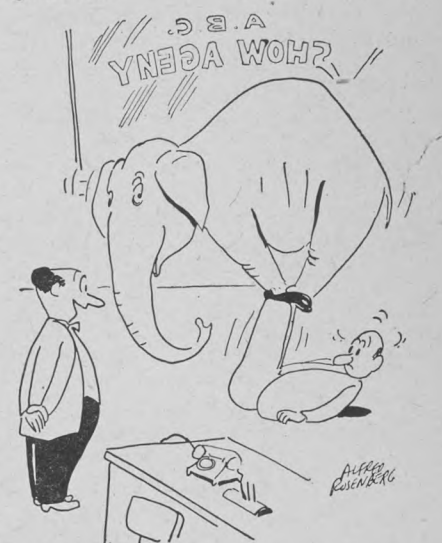
He felt strangely softened this morning. So many things had happened all at once, and his emotions had been taxed and drained as almost never before. Mac's story, the conflicting emotions he had battled with all the next day—his sharp anxiety over his father and his relief when he knew he would not die—had broken through the defensive wall he had chosen to build around his emotions. Johnny's face so like his own, young, hurt, bewildered, determined to hide what he felt, haunted him, made him want to be kind, to do something generous for someone else.

He saw Tanya on the opposite bank of the river and stepped back so she would not see him. For just a moment the old antagonism flared, but it was only for a moment, for it was swept

aside by a strange humility that had gained possession overnight.

"An airman like yourself—like yourself, Joe."

The faces of all the people who had befriended and helped him, a stranger, at the risk of their own lives, rose before him. "Do unto others," they said, "do unto others." All right, he would go and see her if only to prove to her that the whiteman's conception of the Indian could be a mistaken one—they could forgive and forget a wrong—they, too, could be generous.



"Not bad—now, if you can balance him on one foot I'll buy the act."

Joe took a deep breath and looked across at the girl. A smile curved his lips. It was a smile that bore no malice, a smile his father knew well and loved to see.

Tanya was sitting on the bottom step by the pier, her head on her knees, absorbing the warm sunshine. She was tired and sleepy after a restless night.

She heard someone whistling "May-time" in soft, trilling notes and looked up. A canoe was coming toward her and in the canoe sat a man, bare-headed, the sun strong on his black hair. He was whistling as he dipped the paddle with a steady stroke into the water. He looked like a conquering hero coming home.

Tanya stood up. That was Joe Quincey in the canoe! Joe!

Joe saw her get to her feet and stand uncertainly, watching him. She looked like a little girl in her brown skirt and pink sweater, her hair a bit tousled, a frightened child ready to bolt at a moment's notice.

She was pulling the sleeve of her sweater nervously over her right hand. The gesture touched him for he knew why she did it.

Tanya's first impulse was to run, but pride made her stay. Her feet seemed rooted to the ground as she saw him coming closer and closer.

He reached the pier and pulled in the paddle, then he looked up at her and smiled.

"Hello, Tanny." The smile lit up his face and reached his dark eyes that were friendly and kind.

Tanya pulled the sleeve further over her arm and bit her lip. Why had he come? Oh, why had he come? She couldn't force herself to say a word.

Joe tied the canoe to the iron ring and got up. How tall and broad he looked, taller than she had remembered, tall and strong and formidable.

"Aren't you even going to say hello?"

Tanya wet her lips and said, breathlessly, "Hello."

"That's better. Come on, let's sit on the step. I'm as tired as hell." He sat down beside her.

"I'm sorry if I've seemed unneighborly, Tanny, but I just got home myself and I didn't know you were here until a very short while ago. I would have come this morning, but Father was ill all night and I couldn't leave him. Martha's with him now."

He was so matter of fact and friendly Tanya's fears subsided a little and she regained some of her composure. But she could not control the nervous shaking of her body.

"What right have I to think you unneighborly," she said in a low voice. "You owe me nothing, not even neighborliness."

Joe laughed. "'Neighborliness' as you put it, is a law in Pelican. Otherwise you are considered the lowest of the low."

He looked out over the river. "You know this is my favorite spot. I've always loved this river. When I was flying over Europe and saw one below me, I was reminded of Pelican River at home."

"You were—overseas?"

"Yes, I had four years of it, and that was plenty. I was shot down on the border between Belgium and France and spent a few weeks as the unwilling guest of the Germans."

For the first time he felt her really look at him. "You were a prisoner?"

"Yes. There was a splendid fellow, a Czech, who helped me escape. We contacted the French Underground and they got me out of the country. He stayed behind, said he'd be more useful there than in England. Someday I hope I'll see him again. He was

one of the finest men I ever hope to meet."

Tanya pulled the sleeve of her sweater further over her arm.

It seemed so queer, unreal even, that Joe was sitting there beside her on the step, talking as if they had always been friends. She couldn't understand it. But then, she had never really understood Joe.

"I was overseas myself," she said, and this time her voice did not falter. "I was a nursing-sister with the American forces. The Japs caught up with us. We were ordered to get out but there weren't enough planes, so some of us were left behind with the wounded."

For the first time she talked about it without agitation. She was still too unnerved at his unexpected arrival to feel that it mattered. The way she said it, it might have been someone else's story she was telling, and not her own.

"They killed the doctor when he refused them entrance, and they went from bed to bed and bayoneted those helpless and wounded men and they laughed—they laughed, as if it was very amusing to see men die."

She drew up the sleeve of her sweater and laid her hand on her knee. "This is the souvenir they left me," she said briefly.

Joe was thankful for his Indian stoicism. There was no emotion in his face as he picked up her hand and said, "Yes, those devils sent some home with souvenirs like this—if they sent them home at all. War sure brings out the worst in man. I got so that I killed without feeling any remorse. I waited long enough to see they were

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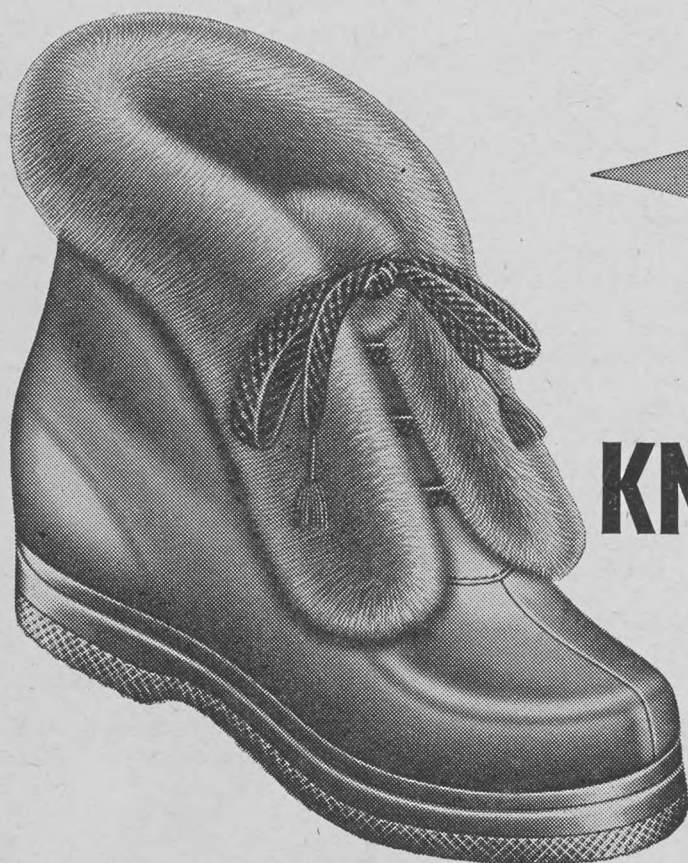


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done for then I moved on to the next and all I thought of was 'Well, that's a few more good Germans.' And when I was a kid I remember I cried, when I shot a deer. It doesn't make sense."

"Were you ever afraid, Joe?"

"Sure I was afraid. Any normal, intelligent person would be. I could never eat before we went on a mission, and many a time I sweated bullets when we were in a tight spot. The other fellows felt the same way. I heard lots of them praying aloud, unconscious of what they were saying. I didn't want to die any more than the next."

"Were you wounded?"

"Not by the enemy. I hurt my leg in a crash landing over Scotland, but I'm coming along fine now. I had a morbid fear of one thing—that my face might be disfigured." He laughed. "Not that my pan is such a prize but it's mine and I'm used to it and I didn't want it changed. They do some marvellous work in plastic surgery these days, but I saw some chaps who had had it done, fellows I knew well, and some of them looked like perfect strangers and it sure got me. I could have taken any other injury but that."

"It's hard to associate you with fear, Joe," she said. "I shouldn't think anything could scare you."

"I'm scared of lots of things. Most people experience fear at some time or another—fear for those they love, fear of failure, of disappointment, of loss, and lastly of death. It's damned silly when you think of it. We should be free—we were meant to be free as that sea-gull over there. And we have the power inside to free ourselves, only most of us don't realize that."

He laughed suddenly. "You should offer me a soapbox Tanny. Quite a speech, that was. I didn't know I was a blooming orator."

Tanya looked gravely at him. He was the same Joe to look at, and yet he was very changed. The shy boyishness had been replaced by a mature strength. Nothing would ever hurt him again, for he had built an armor around himself that no one would ever pierce.

Tanya felt a sense of loss, yet she hardly knew why. Everyone changed with the years, then why not Joe? He alone, of all the world, couldn't stay forever young and boyish. Joe was a man now, with a man's thoughts and outlook on life. But still, there was something gone that shouldn't have gone, a shining, eager something she had known and loved in him. Was it entirely her fault? She hoped not.

"Don't look so serious, Tanny. Let's go in for a swim."

"All right. Come into the Lodge while I change. I haven't gone swimming since I came. It isn't much fun alone."

They walked up the steps together and entered the Lodge.

He felt queer going in there again after all these years and seeing it just as it had always been. He was suddenly lighthearted as if in coming into that room he had shed 11 years and was young again.

"George still has his moose-head, I see," he said aloud, "and the old gramophone. Remember how I used to play that song about the home in the west?"

Very briefly came her answer from the other room. "Yes, I remember. We still have it, I believe."

Joe smiled. He thumbed through the records and found it.

Tanya sank slowly down on the bed and listened.

"When the golden sun sinks in the hills."

A hundred memories associated with that song came into her mind—made more poignant by the fact that they were listening to it together. The summer in Pelican—when they were young, untouched by grief or sorrow—the words that hung unspoken between them—the love they had known. The Joe she had known then seemed closer to her now than this other Joe who sat in the living room, listening. Why had he played that particular song? Was it to show her how little it meant to him now—or was this his way of telling her she was forgiven? She could not decide.

She got up and walked out of the room, shut off the gramophone and said without looking at him, "Let's go."

Down at the pier Joe plunged into the water with scarcely a ripple and Tanya followed.

Side by side they swam to the opposite bank of the river and pulled themselves panting up on the bank. Tanya threw herself on the soft grass.



"One!"

Joe picked up a stone and sent it skimming over the water. He was filled with triumph. "I did it," he thought. "I have seen her and talked to her as if there had never been anything between us. I made her feel at ease, and I got her to talk." He felt strong as he had never felt before, and free for the first time in many years.

Tanya watched the muscles rippling under the dark skin. "How tall and straight he is," she thought, "how sure of himself. I'd give a lot to have such self-assurance. I wonder what he is thinking about?"

Aloud she said, "Who told you I was staying at the Lodge?"

Joe turned. "No one. I saw your light one night and I knew George and Evelyn wouldn't be here, so that left you."

He dropped down beside her and lay on his back, looking up at the racing white clouds overhead.

IN the forest a short distance away stood Willow Leblatt. She had followed Joe to the river, hoping to speak to him. She had seen the girl, and she was seething with rage and jealousy. She wasn't old or dumpy at all. She was pretty and shapely and young and Willow hated her for it. So that was why she had seen nothing of Joe these past few days. He had been visiting this girl at the Lodge. She must be the one Martha had spoken about the day before. Now they were talking and laughing like old friends.

She watched them dive into the river and swim across. Joe helped Tanya to the pier and they walked up

the steps into the Lodge and shut the door, shutting out the world. Willow turned and ran down the path like a deer, hating them both, feeling as if a knife had been thrust into her heart.

TANYA caught herself looking at him every now and then as if to convince herself it was really Joe, who was sitting there opposite her. The whole afternoon had seemed so unreal she wouldn't have been very surprised to look up and find him gone, to find that it had only been a strange dream. But it was Joe, at least this man looked like the Joe she had known. She wondered again just why he had come.

"Lord, but I'm tired," Joe said stretching himself out full length on the chesterfield. "I could go to sleep right now." He closed his eyes and relaxed. The warmth of the fire after the long swim made him drowsy.

He heard her clearing away the dishes, her heels clicking on the kitchen floor. He'd just rest for a few minutes and then go home.

Tanya came into the living room, and stood by the chesterfield in astonishment. Why he was sound asleep—asleep of all things.

She went into the bedroom for a blanket. She spread it over him, tucked in the corners and stood back. Joe did not stir.

"I shall never, never understand you," she said softly.

HOURS later Joe woke up and looked about him, bewildered for the moment by the strange surroundings. He was at the Lodge. So it hadn't been a dream. He had really seen Tanya and talked to her. He pushed the blanket off, and he got to his feet.

Tanya was curled up in a chair sound asleep herself. Joe looked thoughtfully down at her. She had changed in many ways. She was lovelier, in a sense that went further than just her features. She was grave, less talkative, than she had been when he knew her. Life had molded her into a woman of character, removing all the frivolities and intolerance and egotism of youth that had hidden the fine qualities that lay below.

He scribbled a note and left it on the table, telling her he would come over the following day if his father was better and Martha came. He took one more look at the sleeping girl, then went quietly out. Joe paddled swiftly across the river and left the canoe on the opposite bank. No use carrying it back and forth.

On the way home he thought of Tanya. She had been afraid of him, at first, afraid of what he might say most likely, but that had passed. She had been courteous and not exactly unfriendly but she had been wary, standing back and waiting for something. He hadn't quite convinced her that as far as he was concerned, by-gones were by-gones and they could start again and be friends. Was that what he wanted? Was he ready to forget the past? Joe didn't know himself. He had acted on impulse, nothing more. He did not try to define his emotions, if indeed he felt any. He had experienced neither bitterness nor anger at the sight of her. Whatever he had felt all these years had burned itself out slowly and painfully until nothing remained.

He came into the kitchen to find Martha preparing supper.

"Martha, I'm sorry to have kept you so long. I fell asleep. How is Dad?"

He felt reluctant about letting her know where he had been.

"He's awake now and feeling better. Come and have your supper when you've spoken to him."

She looked intently at Joe as he walked out of the kitchen. The boy seemed different somehow. There was an air of excitement about him that set Martha wondering. Was Willow responsible for this change? She had seen Willow go down the path just after he left. She'd never find out from Joe, but she'd certainly know it if she saw Willow.

Willow was a good girl, flighty and headstrong, but industrious and neat as a pin. She'd make him a good wife. A man like Joe would stand no nonsense and children would soon tame her down. Martha was in her element, planning the lives of her friends, believing in her romantic nature that Joe would live happily ever after, once he was safely married.

LATE that night Willow crept through the bushes and made her way to the Lodge. She looked through the open window at Tanya who sat in the easy chair by the fire, reading. She was pretty, this city girl who had come to Pelican, pretty in a pale sort of way. Willow never underestimated an enemy and she did not underestimate Tanya. Only a fool would do that, and Willow Leblatt was no fool.

Tanya put the book down and looked thoughtfully at the fire. Willow came closer trying to read her face. She did not look happy. Her mouth was sad. Was it possible that she had failed to win his interest again. Was their friendship as carefree and casual as it looked. Willow's heart beat high with hope. That the city girl was enamored of Joe she took for granted. At the thought of Joe, Willow closed her eyes and her body went suddenly limp. He was like a sickness in her soul. One way or another, she must get him—she must win or she would die. Joe would be hers, or no one would have him. No one. Willow's eyes gleamed as she watched Tanya. No, she was not at all happy, this city girl. She sighed too often.

Willow slipped noiselessly away. She pushed the canoe out and paddled swiftly across the river. She must get rid of her rival, but how?—What could she do to make the girl leave Pelican? Could she frighten her into going?

Willow pulled the canoe up on the bank and sat down on a log to think, staring sullenly at the light across the river. She told herself. "Once she is gone Joe will turn to you again and this time you play it smart and you'll be settled at the Post when winter comes, the wife of Joe Quincey." Willow trembled at the thought. She bit her lower lip hard and tried to concentrate. One wild scheme after another flashed through her mind but none seemed the right one. If only she could persuade Joe to take her out alone some night in the Rover, it would be easy, but no, he wouldn't do that because of Johnny. Why had he come upon them at just that particular moment. Her eyes narrowed. She had a score to settle with Johnny later and she'd make him pay plenty for dashing her victory out of her hands the instant she had won it.

But she'd get back to Johnny later. Now she must think only of Joe. No,

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he couldn't be persuaded to take her out, but what was to stop her from going to him? Willow stood up. That was what she'd do—she'd go to Joe. Willow's low laugh was full of triumph. Oh it would be easy—easy. She shook her fist at the light across the river and muttered aloud, "I'll get him yet, my fine lady. I'd kill him before I'd let you have him." She smiled suddenly. "But I don't think I'll have to do that." She turned and sped down the moonlit path, feeling happier and more hopeful than she had for a long time, a daring plan forming in her mind. She would have to work fast.

THE next day the air outside was cold with drizzling rain that threatened to turn into snow. A fine mist rose from the lake and spread over the land, bringing a chill that seemed to creep in through the house.

Angus sat by the fire in the living room, wrapped in blankets. Angus, like Martha, felt the change in Joe. The boy looked amazingly light-hearted, and there was a glow in his eyes that had not been there before. Angus did not question the reason for this change. It was enough to know that something had made his son happy.

Martha came over in the afternoon and Joe went whistling off through the forest. It was good to be alive, to be free, and be master of oneself. He knew now the truth of the quotation, "The same fire that burns the wood hardens the steel."

He frowned when he saw the canoe. Someone must have used it after he left. This was not where he put it. He dismissed the thought once he got to the cabin. Tanya was not in. It was cold and damp inside and Joe lit the fire. The breakfast dishes were piled on the kitchen table but the fire was out. Joe pulled out the gramophone and set it going and sat down to wait.

Half an hour passed before he heard her footsteps on the porch. The door opened and Tanya walked in. Her cloak was covered with moisture, her face was pinched with the cold. She leaned in the doorway and looked at him.

"Where have you been, Tanya?" Joe came forward, the picture of health and contentment. Tanya almost hated him.

"Walking," she replied briefly.

"In the rain? Let me take your cloak off. Now go to the fire and I'll make you some hot tea. You must be chilled to the bone."

He watched her walk in and sit down on the chesterfield. She was rubbing her arm as she had done the night he saw her cry. Joe made the tea and left it to steep.

"Lie down on the sofa and I'll rub your arm for you." It was almost a command, but Tanya obeyed, though she resented his tone. He took her hand and rubbed it with a gentle pressure.

"McTavish come today?"

"Yes, this morning."

"You know of course that Phil got it didn't you?" Anything to take her mind off herself.

"Yes."

"I saw him several times on leave in London. He was very changed. There was a girl, a Jewish girl he met over there. Her name was Freda."

Tanya opened her eyes. "I knew about Freda. I met Phil myself in

London, and I thought he was very different from the Phil I remembered. He was too flippant and carefree to ring true. I wondered if it was getting him down, the flying I mean."

"No, it wasn't the flying, it was the girl. She died in an air raid when he was with her. It hit him very hard. He seemed to go all to pieces and he didn't give a damn what he did."

Tanya leaned on her elbow, her eyes on Joe's face.

"Oh what a pity. I knew a little about Freda—that she was attractive and Phil was very fond of her, but that was about all. Did you meet her?"

"Yes. She was a refugee from Poland. Her people were dead or scattered somewhere and she was living alone in London. She was an accomplished violinist. I heard her play one night and her music was wonderful. It was stirring and powerful and yet sad."

He was holding Tanya's hand, but neither of them was aware of it. Joe's eyes met hers. "They were married one night in a little chapel. I was with them. Then shortly afterwards she was killed."

Tanya sank back against the cushion. "I'm glad that Phil isn't coming back," she said slowly. "I didn't know they had been married. He never told me, and when I saw him, he seemed so reckless and devil-may-care I thought she hadn't meant anything to him. There were other girls—" her voice trailed off into silence.



"Under which chin?"

"Yes, there were other girls. A man does strange things to forget. Phil never told his parents about his marriage, or about Freda."

"Because she was Jewish?"

"Yes."

They were silent for a moment. Tanya could not meet Joe's eyes. She was afraid of what she might read in their depths.

"I'm sorry to hear that," she said slowly. "It is wrong to judge another by his nationality." Joe looked at her downcast face and knew he had been right. She would not slap him now.

"I think you should tell them about Freda," Tanya continued. "I think it would make a difference to Martha to know that Phil lost his wife. She may not feel quite so badly about his death. She has loved, and is understanding enough to realize how empty life can become when one is left behind—alone."

She stared at the fire, a far-away look in her eyes, and Joe knew by the nervous twitching of the hand clasped in his, that Tanya's thoughts distressed her. She spoke with so much feeling he knew she was thinking of something that touched her more deeply than the death of Phil.

"How's the arm?" he asked.

"My arm? Why it feels fine—it doesn't hurt any more."



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"Well," Joe spoke briskly, "our tea must be cold as ice and black as ink, by now. Shall we sample it or throw it out?"

Tanya laughed. "Oh, I vote we throw it out."

As the afternoon passed, she forgot the depression that had driven her out into the rain and the weariness of spirit that threatened to overpower her, and thought only of how nice it was to have someone to talk to and to laugh with on a rainy day that didn't seem dismal any more.

AT the Post, Martha and Angus were sitting in the living room. Martha's fingers, never idle, were busy making a jacket for young Oria Shorting's baby that would arrive any day.

Now that her own family no longer needed her attention, Martha turned her great wealth of maternal love to the children in the village, and no baby arrived without a layette any mother could be proud of, most of it made by Martha.

Oria Shorting was a frail, delicate girl and this was her first child. She was often ill, and as sewing tired her, Martha had offered to make all the tiny garments that would be necessary. The chest was already filled, but Martha believed that one more jacket might come in handy, and besides it gave her something useful to do and she kept herself as busy as possible these days.

Martha glanced up every now and then at Angus seated by the window, a blanket over his knees. There was something pathetic about seeing so active a man sitting with his hands lying idle in his lap, in an attitude of patient waiting. It struck a chill to Martha's heart.

"How are you feeling now, Angus?" she asked briskly.

Angus turned. "Much better, thank ye, Martha." He sighed a little. "I suppose I am just gettin' ould and a little tired. One canna' expect one's strength to last forever. I was seventy on ma' last birthday. That's a fair age for a man."

Martha's needles clicked.

"Oh, you've many years ahead of you yet. You'll live to see Joe's children toddling around."

Angus smiled. "I'd like to see the boy happily merrit and then I'd be glad to go. You know, Martha, I feel as if I really died years ago, when she went. Someone once said, 'No! where I breathe, but where I love, I live.' That is true, verra true. I've been breathin' for many years, but I hae nae really been livin'."

Martha looked at him anxiously. It wasn't like Angus to talk like this. The last attack must have been harder on him than he admitted.

"Yes, I guess you're right, Angus. We are all getting old. But we must go on living until the good Lord calls us to rest. Joe still needs you for all he's grown up."

"Yes, everyone must have someone to love and to lean on in times o' stress. But Joe has never leaned on me or anyone else. He has fought his battles alone. Sometimes I think he has been alone."

"That may be. We aren't all made from the same pattern. But just the same, Angus, he has always known that you were there behind him if he needed you. That makes a big difference."

Angus made no reply. He turned back to the window and looked out.

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Measure into bowl ½ cup lukewarm water,
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and stir until sugar is dissolved.

Sprinkle with contents of 1 envelope Fleischmann's Fast Rising Dry Yeast
Let stand 10 minutes. THEN stir well.

In the meantime, scald ½ cup milk
Remove from heat and stir in

¼ cup granulated sugar,
½ teaspoon salt,
3 tablespoons shortening

Cool to lukewarm. Stir in 1 cup once-sifted bread flour and beat until smooth
Add yeast mixture and 1 egg, well beaten

Beat well, then work in 2½ cups once-sifted bread flour
Turn out on lightly-floured board and knead dough lightly until smooth and elastic. Place in greased bowl, brush top with melted butter or shortening.
Cover and set dough in warm place, free from draught.

Let rise until doubled in bulk.
Punch down dough and divide into 2 equal portions; form into smooth balls.
Roll each piece into an oblong and fit into greased pans about 7" x 11".

Grease tops, cover and let rise until doubled in bulk.

Peel, core and cut into thin wedges 8 apples
Sprinkle risen dough with ¼ cup granulated sugar
and lightly press apple wedges into cake tops,
sharp edges down and close together.

Mix 1 cup granulated sugar,
1½ teaspoons ground cinnamon,
and sprinkle over apples.
Cover and let rise about ½ hour.
Bake in moderate oven, 350°, about 1 hour.
Serve hot, with butter.



The leaves were falling gently to the ground. Soon winter would be here with big snows and frost and blustering winds. Angus dreaded the thought of winter. He was getting old. The winter no longer challenged his strength and endurance as it once had done. He, who had loved to battle with the stormy winds, was now filled with a nameless dread.

"Tell me, Martha," he said softly, "tell me. Do you know what happened to the girl who was here long ago with the Winspears? She was Evelyn's sister, I believe."

He could not bring himself to say her name, although he remembered it well.

Martha bent down in sudden confusion to retrieve her ball of wool from under the rocker. She could not face the hawk-like intensity of the keen grey eyes that would detect a lie at once. Whatever made him think of Tanya? Was it possible that someone had made a careless remark and he had guessed? Could he have seen her? No, that was hardly likely. He never went to the river, and Tanya hadn't come to the Bay since she arrived.

Martha wound the ball and did not look up.

"Oh, you mean Tanya. Well, she went in training, and I heard she had signed up for overseas service and spent some years in England. She took

her training on the American side, I believe. That's about all I know about her."

Martha felt shame burn her cheeks. What she had said wasn't a lie, yet it wasn't the whole truth, and Martha was not accustomed to telling what people termed "white lies."

"A nurse? I see. She did nae merry then?"

"Not as far as I know." That, at least, was the truth.

Angus said nothing more about Tanya, yet the very mention of her made a subtle difference to them both.

Martha was relieved when she heard Joe come in.

"Hello, lad," Angus brightened at

the sight of his son. "Where hae ye bin?"

Joe, like Martha, could not stomach lies, so he resorted to a half-truth as she had done.

"I was playing boy scout and doing my good deed for the day."

Martha was suddenly tired of this secrecy and intrigue that had invaded Pelican Bay since Tanya's coming. It was driving honest people to telling lies, and disrupting the even tempo life had been before she came. As she had so often done before, Martha heartily wished that Tanya would pack up her bags and go back to Winnipeg where she belonged.

TO BE CONTINUED.

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NOW, TIDE WASHES CLOTHES WHITER THAN YOU CAN BLEACH THEM!



Yes, TIDE washes clothes
even **WHITER** than
soaking in bleach overnight!

**New TIDE miracle! No more need to bleach
—except for stubborn stains!**

YES! New laboratory tests *prove* Tide actually *washes* clothes whiter than you can *bleach* them! Just put your wash in Tide suds . . . and the white things will come out *whiter* than if you'd soaked them hours in strongest bleach! No bleach on earth can match Tide's amazing whitening action!

SO SAFE TO USE! Tide is really *safe* for *everything* that's washable . . . the most delicate fabrics, the daintiest colors. Colors love Tide's gentle suds. Why, after just *one* wash, Tide actually *brightens* soap-dulled colors!

CLEANER CLOTHES, TOO! And Tide gets clothes *cleaner* than any soap of *any kind*! Even the dirtiest overalls and work shirts come cleaner! Canadian women have proved it themselves. No soap known will get out so much grimy dirt, yet leave clothes so free of dulling film. Get Tide. Remember, no other washday product can *guarantee* you all these Tide miracles!

**SO MILD FOR HANDS!
SO THRIFTY, TOO!**

Tide has a wonderful new mildness—so kind, so gentle to your hands. In fact, Tide is the *mildest* of *all* the leading "detergents!"

SAVES MONEY! Yes! Tide saves you money on *bleaches* . . . and clothes, too! With Tide's gentle, no-bleach suds, clothes actually *last longer*! And such a *little* Tide makes such oceans of rich, long-lasting suds . . . goes so far in hardest water, it's a miracle of economy.

**NO OTHER WASHDAY PRODUCT—bleach, soap
or "detergent"—CAN GUARANTEE ALL THIS:**

WASHES CLOTHES **WHITER**
THAN YOU CAN BLEACH THEM!

GETS CLOTHES **CLEANER**
THAN ANY OTHER WASHING PRODUCT
SOLD IN ALL CANADA!

AND TIDE IS **MILDER**
FOR HANDS THAN ANY OTHER
LEADING "DETERGENT"!



The Countrywoman

To Hungry Children

A SHIPMENT of 70,000 pounds of dried milk, a donation in the name of Canadian people will move out of the port of Vancouver on November 29, in the cargo hold of the S.S. Mapledell. Another 30,000 pounds of milk will follow later. Its destination is South Korea and it should reach there early in the new year, and distribution will begin about January 15. It is estimated that the supply will provide one glass of milk each day for three months for 25,000 hungry Korean children.

The gift has been made available through the appeal and efforts of the Unitarian Service Committee. Freight charges are being paid by United Nations. Distribution will be made through South Korean Parent-Teachers Organization, welfare workers of United Nations and USC field staff to school children. Other agencies have set up feeding stations for destitute Korean children, who are served with breakfast—one ladleful of a gruel, consisting of barley and rice. That has been the only meal provided and the children sit all day in an icy-cold classroom, doing without a noon-day lunch. Many faint from hunger.

Dr. Lotta Hitschmanova, Executive Director of the Unitarian Service Committee, with headquarters at 48 Sparks St., Ottawa, recently spent two weeks in South Korea at the invitation of United Nations Korean Reconstruction Committee, to observe at first-hand conditions existing there. She, a former newspaper woman, is an experienced observer and is skilful in reporting by means of letter, press and radio to large audiences across Canada. Strong in the conviction of the need, backed by a host of devoted volunteer workers, she is doing a one-person job, that can hardly be surpassed.

Of her visit to Korea, she has said: "It was the most harrowing, my most difficult and bewildering assignment during the past seven years. It was my first visit to the Orient, where living standards are so much lower than in western and central Europe or on the North American continent.

"Since the Communist invasion on June 15, 1950, South Korea has suffered indescribably. Of the 20 million inhabitants, 10 million are uprooted; 3½ million have lost all their property. Among these war victims are at least 100,000 children and only half of them are staying with relatives or in institutions. Do you realize what this means? Fifty thousand youngsters of all ages, straying in the streets and on the roads, sleeping in the gutters and ditches, scrounging for food, stealing, loitering and trying to keep alive by every possible means."

Dr. Hitschmanova effectively illustrates her points with films and still pictures, taken by her own camera. Her appeal is simple and direct: \$1.50 will provide one glass of milk a day, for three months, for one child. She has promised two other items: 1,000 quilts from Canadians by Christmas and pencils and scribblers for children in Korea. The quilts are needed to cover refugees, made destitute by the destruction of their homes. Clothing donations are welcomed too: "everything wearable, for adults, children and babies." All gifts of clothing have been voluntarily collected, sorted and packed by willing workers in USC centers, across Canada. Help is given regardless of race, creed or nationality. Human need is the only criterion.

Can it be that our senses have been numbed with the many stories of death and dying in war? No adequate picture can be, or yet has been given, of those millions who roam the fields, roads and streets—the hapless, homeless refugees, who have lost all their possessions, save those they can carry. This has become the great tragedy of our generation and its consequences will extend into future generations.

The thought of children, hungry and shivering, pathetically eager to attend school, each to receive the meager serving of gruel, a glass of milk, and the most rudimentary instruction, must surely sting the consciences of Canadians, move their hearts and cause them to act in support of such an appeal.

A messenger with an appeal for hungry children—good progress noted on two subjects of consumers' interests—on the value of training a child's imagination

by AMY J. ROE



Children line up at Y.W.C.A. feeding station at Pusan, Korea, for their breakfast soup.

Consumer Achievements

CANADIAN homemakers have cause to rejoice, that their protests and appeals have been effective on two matters at least: progress toward standardization of sizes of clothing for women and children; and in having the weight of contents stamped upon packages of soaps and detergents.

Strength of appeal has come through unified action. The individual and group protests have been taken up by the Canadian Association of Consumers, launched by some 50 women's organizations. Committees of the CAC have made a thorough study of complaints, gathered information, planned strategy and pressed for action.

On the first matter, after five years of work the CAC in its June Bulletin, announced: "our efforts to make further progress seem to have bogged down." Since then several conferences were held with officials of various government departments and by September it was announced that the first tangible step forward had been achieved, as evidenced by a letter received from the secretary of Canadian Government Specifications Board:

"As a result of CAC representations to the Director of the Standards Division of the Department of Trade and Commerce, the Minister of that department (Hon. C. D. Howe) has asked the Canadian Specifications Board to investigate the technical aspects of the standardization of garment size. Action is being taken by the Board to define the scope of the project in order to determine what will have to be done to develop the information upon which a practical standard could be based."

Canadian housewives have repeatedly protested that in buying packages of soaps and detergents, they have had no yardstick whereby they might gauge how much value they were getting when buying varying sized packages as weight of contents was not given. For two and a half years the CAC National Executive Committee worked on the problem, registering protests and making appeal for necessary legislation. A little over a year ago Parliament passed a bill requiring soap companies to print the net weight of contents on packages of soaps and detergents. The September Bulletin announced, with satisfaction, the following letter, under date of August 19, from the Director, Standards Division, Department of Trade and Commerce, Ottawa:

"I can now advise that the soap packing companies will be able to commence marking their packages during September and practically all lines

will be marked by October 1. There will be a little delay with regard to a few of the slower moving lines, but it is anticipated that these will be brought into line with the regulations not later than the end of the current calendar year."

Consumers are urged by the CAC to "use their eyes—read the labels—find the weight—and then decide which size package is the most practical one for their household use."

A Place for Fairy Tales

ON a fine summer day, a young artist and his five-year-old son were strolling leisurely along a river bank. Suddenly the small boy said: "Are there really fairies?"

The man, remembering a number of recent conversations with his son about fairies, recognized that a critical point in the child's thinking had been reached. He thoughtfully replied: "When I was very young, people told me that there were fairies and I believed them. They also told me that unless I believed in them, the fairies would die. And of course I didn't want the fairies to die. Even now, I think that there might be fairies, someplace."

"Have you ever seen a fairy?" the boy asked.

"Wiser men than I have claimed that they have known fairies. Some have written about them and artists have painted pictures of them. There are so many things in the world that I do not know about and have not seen, that I am willing to take their word for it—that there are fairies," said the father.

"Can I see a fairy?" said the boy.

"Perhaps you may. Some day, come down to this spot and sit quietly by yourself. Listen to the river and the rustle of the wind among the leaves and look into the grass and see if you can discover anything about fairies," said the man.

The above actual incident, related to me by the child's father, took on a new significance, when in my reading I came across a paragraph in a small book *Memories and Opinions* by "Q." The author, Sir Arthur Quiller-Couch, was telling of how, as a boy, he had often travelled by horse and buggy with his father, a doctor on his round of medical calls, and they had long conversations together. While his father was attending his patients, the boy read many books and went on short explorations of the countryside. During one journey, Arthur had read *The Tempest* by Shakespeare. He had thrilled to this play, based on a fairy tale and it had deeply impressed itself upon his mind. Later he said that he considered it to be "Shakespeare's greatest play." On the subject, "Q" wrote:

"Sir Walter Scott held that to cultivate a child's imagination was at least as beneficial as the drilling of any other faculty; and looking back upon my father's quiet care for this, and what happiness my life has owed to it, I may modestly agree . . . I propose to confine myself here to one specific—fairy tales—their insensible leading of a child to understand in later life his fellow men of all sorts and conditions. In the fairy tale based on the folk tale, prince and peasant meet on a common ground: the woodcutter's youngest son goes out with his knapsack and wins the king's daughter. The tales are 'universal' not only in the sense of being diffused among the inhabitants all over the earth, but through a fine simplicity beyond the reach of the popular novelist, in fine because they are 'aristocratic,' as Chaucer for instance is aristocratic."

Arthur Quiller-Couch (1863-1944) became a noted English writer of novels, verse and journalistic prose. He was, for varying periods, lecturer in Classics at Oxford and Cambridge universities. He wrote his autobiographical *Memories and Opinions*, shortly before his death.

The assurance of such an eminent educationalist and writer, that the cultivation of a child's imagination is important: that a child may, through fairy stories, catch even glimpses of great ideas—leading to an understanding later in life of "his fellow men in all sorts of conditions"—is of value to parents and teachers today in a world torn by class and race conflicts.



COLD is perhaps the most bitter force with which an army would contend in any possible arctic warfare. Unless an army is well prepared and wise in the ways of meeting the onslaught of winter's forces of frost, snow, biting winds, sub-zero temperatures would take a heavy toll in men and equipment.

In many sections of Canada where the thermometer sinks far below zero, men have long engaged in daily tasks of farming, lumbering, fishing and trapping, living there comfortably in spite of the cold. They are accustomed to understanding and combatting the forces of winter. They know well the tragedies that can overtake the uninitiated or those unaware of the surprise tactics of winter. The development of new industries in Canada's northland has brought many more to the North. These newcomers have had to learn to contend with cold weather.

Then the army moved in! It was recognized that Canadian arctic regions—"the top of the world"—could, within the realms of possibility, become an actual combat area on the continent.

Because preparedness is essential and because clothes, food, equipment and quartering determine the morale, strength and very existence of the army, military research goes on continuously on a large scale in all departments. Efficient and adequate clothing, nourishing foods and proper medical treatment are "musts" for men living and moving in sub-zero temperatures.

With the thought that those who live on the prairies, and especially the women who care for the needs of their families, could profit from the army's research and practical experience in northern training maneuvers, I sought an interview with the military authorities.

My first surprise came as we discussed clothing. Heavy woolen underwear has been discarded by army men. In its place is an undershirt of heavy fishnet, an idea adopted from the Scandinavians. Ideas have been borrowed from the Eskimo and trapper and combined with new devices, new fabrics and new methods to make winter wear. Nylon is

used in making sleeping bags, and is combined with other new materials for the outer parka. Wool is considered still to be the best insulating material.

Winter clothing for the army is designed on the principle that the body heat must be maintained if a person is to work. This means the material

next the body must be kept at a uniform temperature. Air is a good insulator. If there is a layer of air next to the body, kept at the correct temperature for working, the person is warm. This insulating layer of air is called a "vapor barrier."

Eskimos have used this principle and many trappers have adopted their method. Both wear one layer of fur of their parkas next to the body. The numerous air pockets act as an insulation. Army men wear a loosely meshed string vest for the same purpose—to leave room for air pockets next to the body. These vests are like gym shirts made of a cotton net similar to eyelet. Formerly they were of store twine, now they are made of a heavy nylon string which is easier on the skin.

Over the string vest is worn light-weight wool flannel pyjamas and, if needed, a flannel shirt. As the layer of air between garments is of even greater importance than the garment itself, it is essential not to wear any garment that is inclined to be



How the Canadian Army dresses, fits and feeds its men for training exercises in sub-zero weather has many points of interest to others who live and work in the northern regions

by LILLIAN VIGRASS

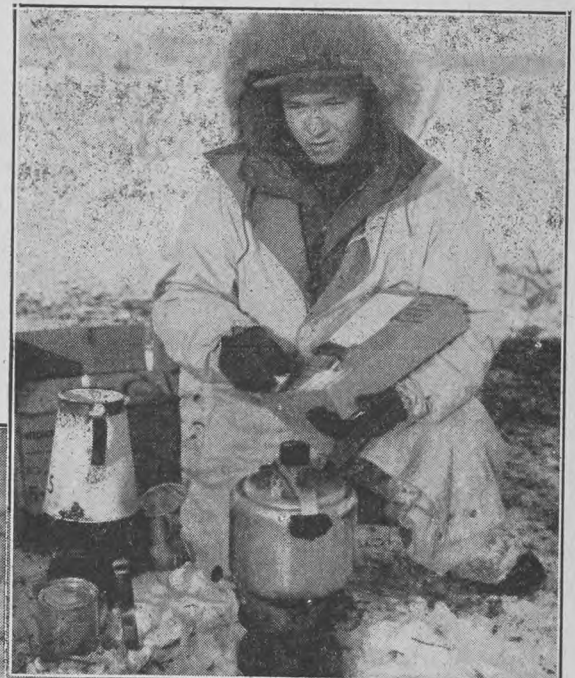
tight. For this reason the bulky woolen underwear, which clings close to the body, is not as warm as the looser pyjamas.

Over the pyjamas a parka and trousers are worn. The Eskimos, the originators of the parka, made theirs of two layers of caribou hide, one layer worn fur side in, the other with the fur to the outside. This gives a total of two air layers for insulation. The Eskimo women chewed the caribou skins to make them soft and pliable. A scarcity of caribou hides—and a lack of women willing to chew them—meant the army must find a suitable substitute.

THE most modern parkas are made of two materials, an outer covering of fine windproof canvas and an inner coat of wool pile. They are long and fairly loose with a drawstring at the waist. They zip up the front with a double-action zipper. The inner portion is zipped in and may be removed in warmer weather.

This waist drawstring is an important feature. In cold weather the drawstring is fastened snugly enough to prevent cold air getting under it, yet not so close as to cut off the "vapor barrier" next the body. As a man becomes too warm it can be loosened to allow the body to cool off. The double-action zipper serves the same purpose as it allows the neck of the coat to be opened quickly and easily.

Men in the services are trained to check on the weather each morning and to dress in preparation for it. They must know how to keep cool as well as how to prevent getting cold when they spend hours in the sub-zero weather. Ventilation, when necessary, is stressed in order to keep the body "comfortably cool" or as the men would say "always cold." The addition or removal of a parka lining, a pair of socks or the parka hood (Please turn to page 61)



Top left: The Royal 22nd build snow igloos at camp at Fort Churchill.

Above: A Princess Pat prepares lunch from the ration pack.

Left: Garbed for the cold, RCR Sun Dog Three men exercise in a camouflaged trench in Ungava Bay region, Quebec.

1ST PRIZE . . . 2ND PRIZE . . .

ALL 6 PRIZES

in the 1952

Canadian National Exhibition

White Bread Baking contest were won with

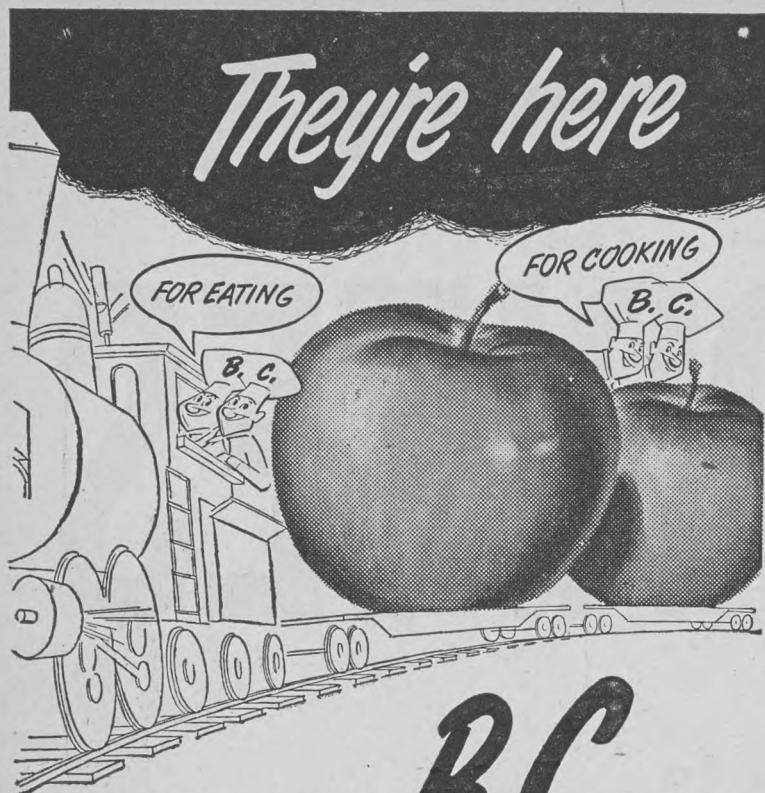
Robin Hood

All-Purpose

Flour

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USE THE FLOUR THE
PRIZEWINNERS USE!**





B.C. McINTOSH REDS

Bite into the crunchy goodness of a fresh and crisp B.C. "Mac" . . . enjoy taste-tempting apple desserts, apple sauce and salads—you'll agree that B.C. McIntosh REDS are GOOD,—every day—in every way.

ENJOY B.C. McIntosh REDS OFTEN! . . . most economical by the box!

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For a wonderfully efficient stainless steel B.C. Apple Slicer and Corer send 25 cents in coins (no stamps please) to B.C. Tree Fruits Limited, Kelowna, B.C.



B.C. APPLE CRISP

6 medium size B.C. apples, ¼ cup granulated sugar, cinnamon, ¼ cup butter, ½ cup flour, ¾ cup brown sugar, 1 tsp. vanilla. Peel the apples and slice into a buttered baking dish. Sprinkle with the granulated sugar and cinnamon. Combine the butter, flour and brown sugar, and spread mixture on top of the apples. Bake about 30 minutes in a moderate oven (350 deg. F.) until apples are soft and top is a golden brown. Serves 6.



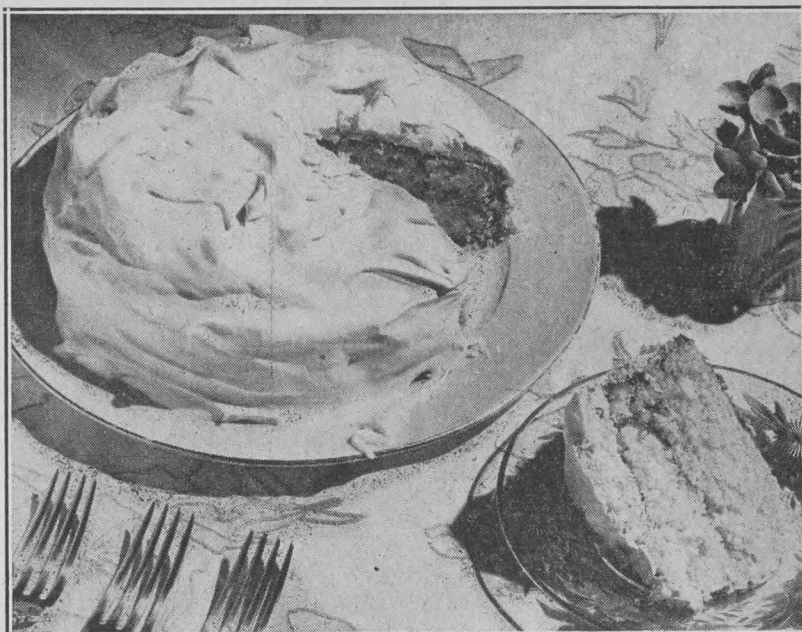
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Caramel Desserts

Caramel, an old-time favorite, adds an extra-special flavor to new recipes



A perfect dessert for any meal is this caramel-flavored cake.

CARAMELIZED-SUGAR desserts have a flavor all their own. In cakes, puddings or icings, caramel adds a distinctively rich but subtle flavor and a deep golden color.

To caramelize sugar heat only until it is a deep amber syrup. Do not let it burn, for although once known as burnt-sugar syrup, burning adds a bitter taste to the dessert. To save time when preparing the dessert make a quantity of the syrup ahead of time. It will keep in a covered jar six or eight weeks even without refrigeration. A half cup of sugar makes up into a third cup of the caramel syrup.

The burnt-sugar cake is a new-method recipe for an old-time favorite. Iced with a caramel cream icing or seven-minute frosting it is delicious.

Caramel Syrup

2 c. granulated sugar 1 c. boiling water

Melt sugar in a heavy frying pan over low heat, stirring constantly with a wooden spoon to prevent scorching. When a clear brown syrup, remove from heat and stir in boiling water slowly. Return to low heat and stir until smooth. Cool. Cover tightly and store at room temperature—keeps 6 to 8 weeks. Makes 1½ cups.

To use as a sauce dilute ½ c. syrup with ¼ c. hot water; add chopped nuts, candied peel, etc., as desired.

Caramel Pudding

3½ c. milk 1 egg
1 c. brown sugar 2 T. butter
2 T. cornstarch 1 tsp. vanilla
½ tsp. salt ½ c. boiling water

Heat all but ½ c. of milk in double boiler. Brown sugar with butter in heavy frying pan; do not allow to burn. When a clear brown syrup forms remove from heat and add boiling water, stirring until smooth. Add to milk in double boiler. Beat egg; add ½ c. cold milk and cornstarch; blend. Stir a small amount of hot milk mixture into egg mixture, then return all to double boiler. Cook until thick (30 minutes). Cool. Serve with cream.

Caramel Frosting

½ c. white sugar 4 c. icing sugar
¼ c. boiling water 1 tsp. almond extract
6 T. butter 2 T. cream
1 egg yolk

Caramelize sugar; add boiling water and stir until dissolved (½ c. caramel syrup may be used). Cool. Cream butter; blend in beaten egg yolk. Beat in caramel syrup and icing sugar alternately; then add flavoring and cream. Beat until

smooth and creamy. Frosts two 8-inch layers.

Burnt-Sugar Cake

2¼ c. cake flour 1 c. milk
3 tsp. baking powder 1 tsp. almond extract
1 tsp. salt ½ c. butter
1½ c. sugar 2 eggs
¼ c. boiling water

Caramelize ½ c. sugar by heating in heavy frying pan until a clear brown syrup forms; stir constantly with wooden spoon. Remove from heat and add boiling water slowly. Return to heat and stir until smooth. Cool; add milk and almond extract and blend thoroughly (½ c. caramel syrup made as in above recipe may replace caramelized syrup if desired). Sift flour, measure and sift together with dry ingredients; into mixing bowl. Add ¾ of cooled caramel mixture and the butter to dry ingredients. Beat for 300 strokes by hand or two minutes on electric mixer. Add remaining liquid and unbeaten eggs. Beat 300 strokes. Pour into two 8-inch cake pans lined with waxed paper. Bake at 350° F. for 30 minutes.

Baked Caramel Custard

3 c. milk ½ tsp. salt
1 c. sugar 1 tsp. vanilla
¼ c. boiling water ½ c. cookie crumbs
4 eggs

Caramelize ½ c. sugar by heating in a heavy pan until brown then slowly adding boiling water, continue stirring until smooth. Scald milk; blend in caramel syrup (½ c. of caramel syrup, if preferred). Combine well beaten eggs, remaining sugar and flavoring. Slowly stir liquid into egg mixture. Pour into 8 custard cups. Crumble over top of each a tablespoon of coarse cookie or dry cake crumbs. Set in pan of hot water. Bake at 350° F. for 40 minutes. Cool.

Caramel Custard Pie

Make custard from above recipe. To avoid soggy crust bake 10-inch pie crust separately; bake custard in buttered pie plate (10-inch) and cool. Loosen edges of custard carefully and shake gently to loosen. Slide custard from pie plate into cooled pie crust. Serves 8.

Caramel Rice Pudding

½ c. rice 1 c. sugar
4 c. milk ½ tsp. salt
½ c. raisins ½ c. boiling water

Place rice and milk in top of double boiler. Cook for 2 to 3 hours. Caramelize sugar; add boiling water slowly. Add with raisins to rice and continue cooking until raisins are tender. Serve warm or cold with cream.

Onions for Flavor

Easy to prepare, onions are year-round favorites

ONIONS take the lead in stews and gravies, meat and vegetable casseroles as a seasoning. They are just as tasty when served as the main vegetable of the meal. Cook them along with the roast, fry them with liver or steak, or serve creamed onions. They add zest and flavor to a quiet meal.

If you have the large Spanish onions serve them sliced raw, for a change, in a dressing of sour cream and vinegar, or for a midnight snack, in sandwiches with salt, pepper and a little salad dressing.

To boil onions add plenty of salted water and cook them only until they are tender. Overcooking makes them strong flavored and dark in color. When frying cover them tightly and let them steam tender once they have been lightly browned.

Tomato and Onion Pie

8 medium onions ½ tsp. salt
8 medium 1 T. sugar
tomatoes ½ tsp. pepper
5 c. bread cubes 2 T. butter

Boil onions in salted water until almost tender, peel tomatoes but leave whole. Line the bottom of a glass loaf pan with bread cubes. Cover with a layer of tomatoes and onions which have been placed alternately in rows. Sprinkle salt and pepper, sugar and remaining bread crumbs over the vegetables and dot with butter. Bake in moderate oven (350°) for 30 minutes.

Ham-Stuffed Onions

6 medium onions 1 T. melted butter
½ c. cooked ham 1 c. light cream
¼ c. green pepper ½ c. buttered crumbs
½ c. soft bread ½ c. buttered crumbs

Peel onions, wash and cut off tops. Pierce centers with skewer to keep them whole while cooking. Cook until almost tender in salted water. Drain and remove centers. Chop centers and combine with chopped ham, chopped pepper, soft bread crumbs, melted butter and salt and pepper to taste. Fill onions with ham mixture. Place in baking dish, pour cream around onions. Top with buttered crumbs and bake at 375° for 30 minutes.

Creamed Onions

8 medium onions 1 T. butter
1 tsp. salt 1 can cream of chicken soup
Dash of pepper
Dash of paprika

Cook onions in salted boiling water until tender. Drain. Add remaining ingredients and heat thoroughly.

Fried Onions and Peppers

5 medium onions 2 T. water
4 green peppers ½ tsp. salt
3 T. butter Pepper

Slice onions and peppers. Fry together in butter. Add water, salt, pepper, cover tightly and simmer five to seven minutes or until tender.

French Fried Onions

6 to 8 big mild onions 2 c. milk
2 c. flour
3 eggs

Slice onions in ¼-inch slices. Combine milk and eggs; beat well and pour into a shallow pan. Drop onion rings into egg-milk mixture. Swish onions around to dampen each ring. Remove and shake to drain. Drop rings into pan filled with flour. Coat each ring. Fill wire basket ¼ full with onions. Deep-fat fry in hot fat (450°) until golden brown. Drain, sprinkle with salt. Serve piping hot.

Cream of Onion Soup

2 slices bacon ½ tsp. salt
1 c. sliced onion 3 c. milk
½ c. diced celery ¾ c. grated cheese
2 T. flour

Dice bacon and fry until just crisp. Add sliced onion and diced celery; cook until golden. Stir in flour and salt. Add milk gradually and cook over low heat until smooth and thick, stirring frequently. Add grated cheese; stir until melted. Serve in hot bowls with croutons.

French Onion Soup

6 c. beef stock 1 tsp. kitchen bouquet, if desired
4 T. butter 6 slices French bread
1 tsp. salt ½ c. sharp cheese, grated
½ tsp. Worcestershire sauce
¼ tsp. pepper

Melt butter in heavy kettle. Add onions and cook until lightly browned (15 minutes). Add beef stock and seasonings. Simmer ½ hour. To serve place a round of dry French bread in each bowl, sprinkle with grated cheese, then pour in soup. Rounds of white bread, toasted slowly in the oven until dry and light brown, may be used if desired.

Onion Sauce

2 T. sugar 1 c. beef stock
1 T. fat 1 tsp. vinegar
2 onions 1 tsp. salt
1 T. flour 1 tsp. paprika

Stir and cook the sugar in fat in heavy skillet until lightly browned. Add the onion, sliced, and cook until light brown. Stir in flour. Slowly add broth, vinegar, salt and pepper. Stir until smooth. Serve hot with boiled beef brisket.

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You'll score a double triumph with this gayest of Magic cakes! For your guests' exclamations over its startling beauty will quickly be followed by a fresh chorus of praise—this time for its bewitching blend of flavors!

Yes, Magic makes flavors rise to ecstasy while it's perfecting the light, silken texture of your cake! For assurance and supreme satisfaction whenever you bake, rely on time-tried Magic Baking Powder—it costs less than 1¢ per average baking!

MAGIC NEAPOLITAN CAKE

2 cups once-sifted pastry flour
or 1¾ cups once-sifted all-purpose flour
3 tsps. Magic Baking Powder
½ tsp. salt
8 tsps. butter or margarine
1 cup fine granulated sugar
2 eggs
¾ cup milk
1 tbsp. milk

½ tsp. vanilla
1 ounce unsweetened chocolate, melted
½ tsp. almond extract
Few drops green food coloring
(or pink, if preferred)
2 tsps. toasted finely-chopped almonds
¼ tsp. ground cinnamon
⅛ tsp. ground ginger
Few grains ground cloves

Grease an 8-inch angel cake pan and line bottom with greased paper. Preheat oven to 325° (rather slow). Sift flour, Magic Baking Powder and salt together three times. Cream butter or margarine; gradually blend in sugar. Add unbeaten eggs one at a time, beating well after each addition. Measure the ¾ cup milk and add vanilla. Add flour mixture to creamed mixture about a quarter at a time, alternating with three additions of milk and vanilla and combining lightly after each addition. Divide batter into three parts. Stir the 1 tbsp. milk and melted chocolate into one part; stir almond extract, green food coloring and almonds into second part; sprinkle cinnamon, ginger

and cloves over third part and stir to combine. Spoon batters alternately into prepared pan. Bake in preheated oven 50 to 55 minutes. Cover cold cake with the following Chocolate Butter Icing; decorate with toasted whole blanched almonds.

CHOCOLATE BUTTER ICING: Cream 4 tsps. butter or margarine; work in 2 cups sifted icing sugar alternately with 3 tsps. scalded cream, stirring in 3 ounces melted unsweetened chocolate after part of cream has been added. Add 1 unbeaten egg and ¼ tsp. vanilla; beat until icing begins to thicken; beat in a little more cream, if needed, to make an icing of smooth spreading consistency. Spread immediately on cold cake.



Colorful tomato and onion pie adds zest to a fall meal.



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is
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...you've
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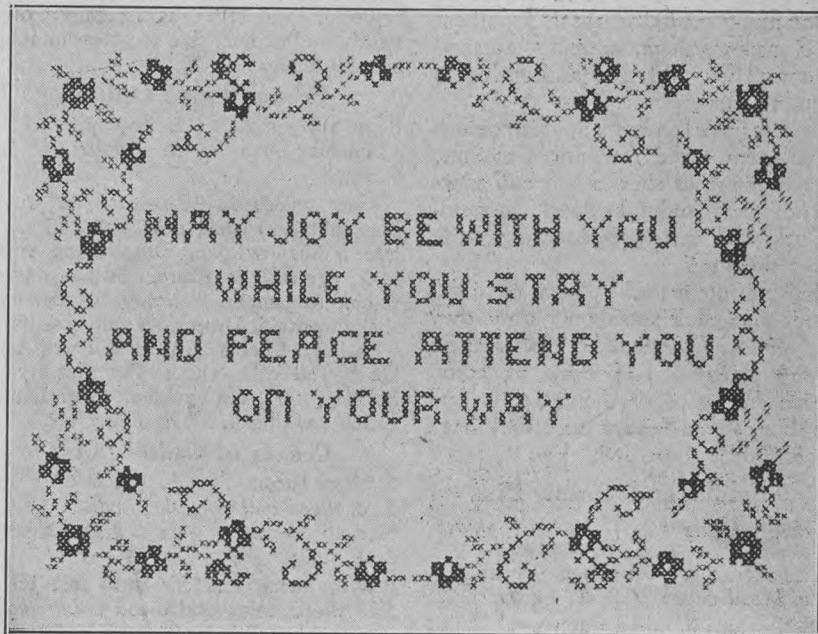
CANADA'S BEST-SELLING BABY FOODS ARE HEINZ

Needlework Ideas

Varied and attractive items for the needlewoman

by FLORENCE WEBB

Gaily Bordered Sampler

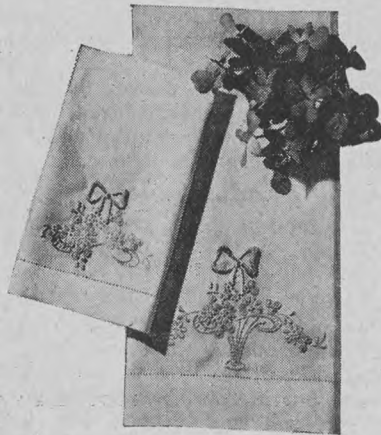


Design No. 512

This is a most popular motif sampler—replete with words to cheer guest and family alike. We worked the letters in delft blue thread and the flower scrolls in natural colors. Stamped on nice quality white linene the sampler fits a mat or a frame measuring about

12 by 15 inches. We used a wide antique-ivory frame and matching mat lined with a narrow gold band for a luxurious and interesting setting for the needlework. Nice to hang in reception hall or guest room. Sampler is No. 512, price 85 cents (instructions included). Threads are 25 cents extra.

Linen Gift Towels



Design Nos. 717 and 718

It will soon be here again—that pleasant time of the year when we like to remember those most dear to us with a fitting gift—something specially nice. For all homemakers and young ladies who may one day soon contemplate having a home of their own, we can think of nothing nicer than hand-made and decorated linen towels. These come in two sizes—the fingertip size and regular guest-towel size. Both are stamped on lovely Irish linen ready to hem and embroider. The directions are included. They are matching so perhaps you would like to give them as sets. Design No. 717 is the fingertip size (12 by 15 inches) and are \$1.10 for three, threads are 30 cents extra. Design No. 718 is the guest size (15 by 24 inches) and are \$1.25 for the pair, threads 30 cents extra.

Boys' Tuck-in Helmet

Young gentlemen will welcome this smart tuck-in helmet that acts both as a scarf and a cap. It is easy to make and is one of the warmest ideas you can imagine. The pattern includes directions for three sizes covering ages from one to eight years. There is a well-fitted ribbed band to hug the face and cover the ears; a wider ribbed band around the neck then tuck-in sections front and back with openings on each shoulder for neat fit. Both you and the young man will like this idea. Pattern is No. K-119, price 25 cents.



Send orders to The Country Guide Needlework Dept., 290 Vaughan St., Winnipeg.

No. K-119

Cold-Our Enemy

Continued from page 56

will keep the temperature, of all parts of the body, regular.

Most of the parka hoods are of the same material as the outer covering and are lined with flannel. The hood buttons or zips to the coat. The style of hood presents a problem. A fur edge helps to protect the face from the cold, but the only fur that doesn't frost up from moisture in the breath is wolverine. It is used by the Eskimos but is not available in quantity for army use. An extension of the hood, held in place by a wire brace, breaks the wind. But the extension and the fur edging tend to cut the field of vision. The need to see on all sides is of extreme importance to soldiers, as it must be to men on the farm or in the woods if accidents are to be prevented. In extreme cold or when facing high freezing winds, the soldier wears a face mask of chamois.

In warmer weather, a type of ski cap is sometimes worn, similar to the C.W.A.C. cap used during the war.



A special anti-freeze mixture cools the guns in the 40-below weather on the Donjek River banks in the Yukon.

It fits under the hood, and the hood may be pushed back when not needed. When the hood is not worn a neck-square of wool is knotted loosely beneath the parka coat.

The windproof trousers are of the same material as the outer parka. Braces, rather than a belt, are advocated so as not to disturb the "vapor barrier" next the body. Trouser legs are the same size as regulation army pants, and can be worn in or outside the mukluks as desired.

FOOTWEAR for extremely cold weather consists of layers of wool socks worn under a canvas mukluk. Layers of wool allow room for vapor insulation and the amount of covering can be adjusted to suit the weather. The socks can be separated for drying.

The first layer is the ordinary heavy woolen work-type sock. The second is a heavier pair of wool socks. These in turn are covered by duffle socks of wool felt, similar to oversize moccasins. They pull on, are ankle high, and are actually two-layered for insulation and for easier drying. Nylon toes and heels give added wear. Over the three layers of socks go the canvas mukluks, which include a felt insole. These serve to break the wind, keep in the body heat and keep out the damp. The original mukluk gave insufficient ankle support but the new version has a special support strap. They zip up the front, but lace up the back as well in case the zipper will not work in the cold and damp.

Mukluks cannot be worn in quick-thaw weather, as they are not water-proof. Wet-wear includes a boot with

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You too can be ready for those big Christmas and New Years family turnouts. For with a Frigidaire Refrigerator and Frigidaire Electric Range you are able to keep safely and quickly prepare the largest meals you'll ever be called on to make — and without those hours and hours of hard work. Visit your Frigidaire Dealer today and see the complete line of Frigidaire appliances waiting to serve you. There's a model to suit your needs and your budget.



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You can roast a 35 lb. fowl — or bake six pies at once in the giant oven of this Frigidaire range! Yet the whole range is only 30 inches wide, fits easily into the smallest kitchen. Fast-heating, 5-speed Radiantube Surface Units. Automatic oven clock control, full-width utensil drawer and a sparkling porcelain finish.

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6 PIES OR A
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For full information visit your nearby Frigidaire Dealer, or write Frigidaire Products of Canada Limited, Scarborough (Toronto 13), Ontario.





(Illustrated above: graceful Queen Anne Model)

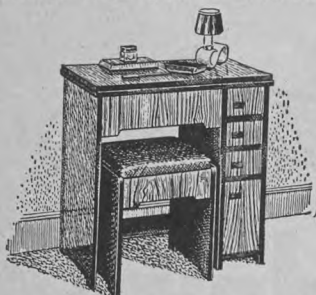
Make this— "The Christmas I got my SINGER"

A gentle hint to the man of the house should be all it takes . . . for the Christmas your SINGER arrives marks the year you start saving.

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smooth, trouble-free sewing. The new SINGERS glide easily over heavy denims, sew bulky seams with no trouble at all.

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Handsome Cabinet Model



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rubber over the sole and up to the instep and a leather upper that laces up over the ankle. When working around the tent or camp the men often wear moccasins, as they are light, comfortable and warm enough for ordinary wear.

Gloves or mitts must be warm yet not be too bulky. Woolen mitts or gloves are worn under leather mitts of the gauntlet type. The latter pull up over the sleeves of the parka almost to the elbow and have a strap to hold them in place. A trigger finger may be left separate to allow more ease in hand movements. The backs are of sheepskin, wool side out. If the wearer suspects his face is freezing, he can breathe into the wool, then apply the warmed mitten to the spot. If a nose drips in cold weather, the wool will wipe it gently and the moisture, when frozen, whacks off easily.

For men who work on machinery or other equipment in the cold, anti-contact gloves are worn to prevent frost burns. These gloves are made of fine nylon tricot impregnated with rubber at the fingers and thumbs—not for warmth but to protect the hands against cold metal.

MEN working outdoors on the prairies in the winter have many of the same clothing problems as men training for combat in cold areas. They look for clothes that are not too heavy and allow freedom of movement yet give protection. A fabric of itself is not "warm." It is rather the amount of air enmeshed by the material that determines the warmth of the garment. Tight underwear, tight boots and close-fitting sweaters actually conduct heat away from the body. This fact is recognized by designers of children's clothing who have made the one-piece loose-fitting snowsuits with pile linings and attached hoods.

Some soldiers find it more difficult than others to keep body heat regular. Stout men, in particular, find the variation in temperature greater. Each man must work out for himself the amount of clothing he should wear. Materials and clothing are continually under test by military technicians and being modified to give the greatest possible protection, comfort and ease of movement.

During training, men sleep in sleeping bags, five to a tent. The sleeping bag is made in three parts, an outer water-repellent bag of nylon and two inner bags, each of nylon stuffed with eiderdown. Each part has a mummy-like canopy to cover the head. To prevent loss of heat, the inner bag zips up the center, the outer bag zips up the side and each has a two-way zipper that can be done up from the inside as easily as the out. A roomy sleeping bag gives added insulation so few sleeping garments are worn, perhaps only the trousers of the flannel pyjamas.

Melting snow cannot get through the outer bag but ice may form under the bag. Suitable protection between the bag and ground is difficult to find. Inflatable air mattresses were issued to trainees but soon tossed out as layers of ice formed on them, making them too cumbersome to pack. The Eskimos use caribou hides as a ground sheet. Pine boughs are good when available. The old trick of using newspapers under the sleeping bag to keep the ground cold out works fairly well.

(Please turn to page 64)

Baby's Cold

Clear Baby's head and nose with gentle Mentholatum. Quickly eases congestion, soothes inflamed, swollen membranes and relieves cold miseries. Helps Baby breathe freely. Jars and tubes.

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Gifts to Please

No. 2207—Make pyjamas for the men folk of the family for Christmas. These require no buttons or button holes, have long sleeves and roomy trousers with a drawstring at the waist. Second version is collarless and buttons down the front. Sizes small, medium, large and extra large. Medium size (38 to 40) requires 5 yards 35-inch or 4¾ yards 41-inch material. Price 25 cents.

No. 4092—Make a gay and practical cover-up apron, with an oven mitt to match the trim, for Mom this Christmas. Pattern has a five-gore skirt, skirt pockets and a choice of necklines. Applique pattern included for second version. Sizes small, (32 to 34), medium (36 to 38) large (40 to 42) and extra large (44 to 46). Medium size requires 2½ yards 39-inch material, 1 yard trim. Price 35 cents.

No. 4064—A smock to prettily cover up your dresses or for a mother-to-be to wear with a slim skirt. Wear it with or without a belt. Sleeves can be made short with a cuff or small cap sleeves; collar convertible or Chinese mandarin. Embroidery pattern included for collar, cuffs and pocket trim in a choice of flowers to applique, poodle dogs or a conventional line design. Sizes 12, 14, 16, 18 and 20 years; 40, 42, 44-inch bust. Size 18 requires 3¾ yards 35-inch material. Price 35 cents.

No. 4098—Clothes for sister's favorite doll are fun to make and fun to give. Doll wardrobe includes a fitted coat and bonnet; flared jumper, blouse and tam; crinoline petticoat and a nightgown as well as the illustrated dress with bonnet and evening gown. Sizes to fit a doll 15, 18 or 21 inches tall. Material requirements vary from ¼ to ¾ yard for each garment. Price 35 cents.

No. 4097—Stuffed dolls that can be darkies or white have a complete outfit for each. Blonde doll has golden wool hair, a pink party dress and bonnet; the boy, checked jacket and school-boy cap. Darkies have black wigs, brightly colored clothes. Pattern includes girl doll's panties and petticoat, and shoes of felt. Each doll requires ½ yard fabric for form; clothes, piece-bag scraps up to ⅞ of a yard. Price 35 cents.

No. 4059—Overalls with a cowboy to applique, for the young scamp of the family, has a jacket to match. Overalls have a bib top and a pocket, if desired. Jacket is cut straight, has raglan sleeves and a tiny collar. Applique the cowboy's horse on it, included in the pattern. Sizes 1, 2, 3, 4, 5 and 6 years. Size 3 requires 2½ yards 35-inch for jacket and overalls or 2⅞ yards corduroy or other napped fabric. Price 35 cents.

No. 4102—Make the little girl in the family pyjamas for Christmas with a cuddly bunny dressed to match. Flared jacket means only one button hole to make. The yoke and pockets are lace trimmed; the pants are roomy and may be gathered in at the ankles with elastic. Sizes 1, 2, 3, 4, 5 and 6 years. Size 4 requires 3 yards 35-inch, stuffed bunny form ¾ yard 35-inch material. Price 35 cents.

State size and number for each pattern ordered. Write name and address clearly. Note price to be included with order.

Patterns may be ordered from
The Country Guide Pattern
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Simplicity Patterns



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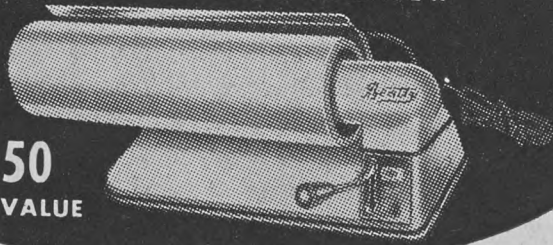
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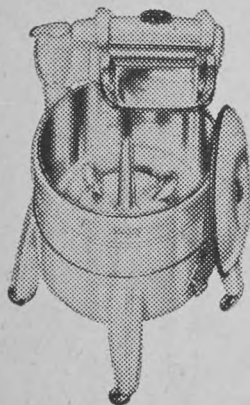
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This is the washer with the double tub, the inner one being stainless steel. Won't chip, scratch or stain. When you buy this washer, we'll give you a \$99.50 Beatty Space Saver Ironer in exchange for your old washer

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Packing and availability are always points that have to be considered.

Snowshoes are worn by the men for travelling and toboggans are used to transport supplies. The small sled with one man drawing it seems easier to pull and less jerky than the large five-man toboggan. A second man follows to guide it over the rough ice and to see the load is not lost. Dogs are seldom, if ever, used by the army in the North.

Food has been tested under arctic conditions. Good food is one of the best means of maintaining morale in extreme cold. As the body burns extra fuel in colder weather, the calories have been increased by a third. Sugars and fats are concentrated in the ration issue, the supply of butter is doubled and the meat ration is increased.

Meals are packed compactly in cartons, each carton containing rations for the five men in a tent group for one day. Each man's rations are packed separately so there are five cans of wieners and beans, five cans of fruit cocktails, chocolate bars for each and so on. The bread in the carton must be compact, nutritious and not too perishable. Pilot bread, which is similar to a very rich, almost unleavened, biscuit, is supplied. Potatoes are too bulky to pack and can't be frozen so are not included. Within a short time they are missed more than any other food.

Under freezing conditions, keeping the food is not difficult, for the cartons may be stored outside. They are brought in the day before they are used. Butter and other foods that are served cold are hung on the tent pole to warm slowly to the right temperature for eating. Each tent group has a pressure cooker and two small one-burner gas Coleman stoves. The pressure cooker is a life-saver for the men who use it to thaw out, heat and cook all their hot foods. It saves time and makes the food really palatable, yet it is not difficult to pack.

The cook for the day gets up first in the morning and prepares coffee. The stove warms the tent for the business of dressing as the coffee boils. The men get their first cup before they arise.

EACH man who goes on these northern expeditions is taught first aid. The first rule is prevention. Second, they must know what to do if an accident occurs. Main casualties are due to frostbite, burns from using the stove and pressure cooker in a crowded tent, and fractures due to the rough terrain and ice. Light casualties can soon become a problem, in cold weather where death by freezing is a hazard never far off, once a man cannot move. Heated sleeping bags help, when available. Otherwise heated stones, bricks or hot water bottles are used until evacuation is effected. Stimulants are given, when necessary.

When on the move, each man has a "buddy" who watches his face for any suggestion of frostbite. The partner, in return, keeps a close check on his buddy's face. Each man can thus warn the other in plenty of time to prevent any extensive freezing. If frostbite does occur the men are taught not to rub the spot, especially not to rub it with snow, which is like using sandpaper on a burn. The only recommended treatment is to thaw out the freezing by applying heat slowly. Afterwards a "freeze" is treated as one would treat a burn. If his face

seems to be freezing a man will breathe into his sheepskin mitt to warm it, then hold the mitt to his face. Hands are thawed out by placing them inside his parka and warming his hands under his arms. A doctor's attention is essential if the frostbite is severe.

Slight burns are treated with tannic acid jelly, spread liberally over the area to keep out the air and relieve the pain. Shock from an accident may be more serious than the actual burn. After easing the pain with applications of analgesic jelly, treatment for shock is given.

In preparation for the possibility of actual warfare the army gives a practical two-week training course to a cross section of service men. These trainees, in turn, return to their own group of men to instruct in how to make the most of the facilities available. The first week of training is mainly lectures and conditioning exercises. The second week is a rigorous course with at least one long tough trip that lasts several days in the freezing weather. Cold-weather combat becomes less difficult as the men learn how to handle their clothing, supplies and equipment to advantage.

Home Aids

Add molasses to the whipped cream on gingerbread or pumpkin pie for interesting flavor and color.

Serve pancakes with a mixture of maple syrup and cream for an extra good breakfast or supper.

Baste ham, ham steaks, goose or duck with apple juice; the flavor is wonderful.

Bake an angel food cake in a hot oven for a shorter time; although the crust may crack slightly it gives a more tender, moist crumb than when baked in a slow or moderate oven.

To bake a hollow-center fruit cake invert a glass in the center of a baking dish if you have no tube cake pan.

Half-size dress patterns are made for the shorter woman with shoulders that are narrow in proportion to the rest of her figure.

Pin the shoulder pads in position in a new dress or suit before making the first fitting.

Press all darts in the bodice and skirt to the center front or center back when giving a garment its first press.

Allow bias-cut skirts to hang for at least 24 hours before putting in the hem. Always press it on the straight grain of the material.

A seam will be flat if the curved edges of the seam are clipped almost to the stitching every half inch or less.

A bias seam will not stretch in stitching if it is basted to tissue paper, sewn and then the paper torn away.

To gather material by machine make three rows of stitching on the right side using a loose tension and eight stitches to the inch; draw the upper thread taut after tying the threads at the other end.

Wrap a piece of colored paper around the index finger of the left hand when doing hemstitching by hand. The threads will show up much better.

The Town

Continued from page 10

Tourist House with its bright blobs of umbrellas. From the Greek restaurant came the same stale, sickly sweet smell of sodas and confections. The Baptist Church, Chaffey's drug store, the Memorial Park. His eyes were always busy. Every girl he saw coming along . . . No go, he thought, my luck's out. He checked his time by his watch, and took a chance, cutting across the little park, then two blocks up, running, sweating—to Maple Street.

He ran almost with a sense of guilt, as if he were letting George down, as if indeed George's eyes, mocking, disgusted, angry, were on him; George, who was a man's man, a hard, two-fisted guy who could, and had, knocked two men out cold in a waterfront tavern brawl. George, who wouldn't be able to understand why now his heart was in his mouth, his throat was dry, as he reached Maple Street and saw the white house two doors beyond where once he used to visit his Aunt Liz. A girl, wisping an apron in her hands, answered his ring, his question.

"No," the girl said, "she ain't here. She works, you know. Kind of helping out, temporary. I can tell you where you'll find her."

She told him, and Milt stared. Milt said words he had learned at sea, then apologized to the girl, and checked with his watch and took it at the run, past Aunt Liz' old house where a woman shelling peas on the verandah watched him curiously, across the Memorial Park, down Main Street.

A man he bumped into said, "If you're after the train, take it easy. You still got all of four minutes."

He reached the station platform, and saw that most people had finished breakfast and were strolling up and down, or getting their places in the coaches again. They gawked as he dodged through them, pulled open the screen door, and let it slam behind him.

GEORGE was still holding down a stool at the counter. He was talking across the counter to a girl, but when the door slammed he swung around. George said, "Hah, here's the guy now. We been waiting for you, Milt." There was a queer sort of grin on George's face. "Can you beat that?"

he said. "Here she was all the time. I knew her straight off from pictures you'd showed me."

The girl behind the counter looked at Milt; she put a hand to her throat and stood there, as if waiting for him to speak first. The same Mary, he thought, his heart in his eyes, with her brown-gold hair, her slightly tilted nose about which he used to kid her, her long lashes. But he couldn't say a thing. What can you say in three minutes, two minutes; what can you say that matters? And he couldn't talk before George, who sat there looking first at Milt and then at Mary, and then at the hands of the big clock above them.

"Snap out of it," George said. "I've given her the lowdown on just what our plans are, yours and mine, and everything's okay with her." A voice outside began to bawl a warning. All aboard! All aboard! "That should be us," George said. He slid down off the stool and held out a big paw of a hand to the girl. "Sure glad to have had a talk with you," he said.

Milt's throat was hot and anguished, and he was still without speech. Mary came around the counter, and George

got hold of Milt's arm, propelling him toward the door. "Take a tumble to yourself," George said. "Are you the lucky stiff, or aren't you?" They were on the platform now. "Look what you're falling over," George said. His big body swung easily aboard. Milt stared down at the luggage over which, propelled by George, he had almost tripped.

George was entering the day coach. He was taking his seat. He pushed the window up and grinned at them.

"See you both up north, sometime, maybe," he said.

Mary was beside Milt, clinging to his arm. Milt hadn't kissed her yet. Even that could wait. There was time for that now. All he could see was George at the window there, alone in the double seat of the day coach. That, and the luggage which George had neatly piled on the platform here for him. Mary waved as the train pulled out.

"He's nice, isn't he?" Mary said.

"Yes," Milt said, a catch in his breath. "George is one grand guy."

He wondered if there would ever be a town with a woman in it—for George.

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T.M. REG'D.
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Plowing Match

Continued from page 11

Canada for at least 100 years, and at one time there were over 80 local plowmen's associations in Ontario. They are not significant features of the agricultural year in the prairie provinces generally, although Manitoba and Alberta still have a few local plowing matches, and a provincial plowing match is held at Portage la Prairie each year.

The early Ontario matches (likewise the prairie plowing matches today), were held under the auspices of the agricultural societies. A provincial plowing match was held in connection with the provincial exhibition, which at that time moved around from year to year. Interest began to wane, however, and there were no more than a dozen matches held by 1910. It was then that the Ontario Plowmen's Association was formed, to revive interest in this basic skill of the farmer.

In 1913 the first International Plowing Match was held in Ontario, at which there were 31 entries in horse plowing; and a notable feature of this event was the presence of one tractor, as a curiosity. Since 1926 the event has been known as the International Plowing Match and Farm Machinery Demonstration; and its growth since 1913 is illustrated by the fact that in one recent year there were 1,200 entries and over 150,000 spectators.

This year The Country Guide was present at the International Plowing Match held at Carp, Ontario, about 20 miles northwest of Ottawa. The site was an airport; and in addition, land on 16 adjacent farms was used, to secure a sufficiently large area for the more than 500 contestants who competed in 44 classes over a four-day period. Competition during the first day, October 7, was confined to local counties in Ontario and Quebec, contestants from which competed in 13 classes. During the remaining three days there were 22 tractor classes and nine horse classes in the international event.

THERE are, in Canada, three principal annual events directly related to agriculture, which have a distinct international flavor. First in importance, no doubt, is the Royal Agricultural Winter Fair, now in progress in Toronto. The other two are the Calgary Stampede and International Plowing Match and Farm Machinery Demonstration. Attendance at the latter is difficult to calculate precisely, but it was estimated at from 90,000 to 100,000. Undoubtedly the most impressive part of the event was the "tented city." Here, and in the adjacent airport hangar, were more than 175 exhibits, ranging from the half-dozen largest farm implement companies to the Carleton County 4-H Clubs. In the hangar were educational, breed and organizational exhibits, including eight breed associations of the Ottawa valley, the Central Experimental Farm, the Carleton Farmstead Improvement Project (a very striking effort which attracted 408 entries) and the medical services of the Carleton Federation of Agriculture.

In the tented city was to be found farm machinery and equipment of almost every imaginable kind. The tents of the exhibitors lined both sides

of two streets, each half a mile long. No side-show or midway attraction of any kind was permitted. The area was virtually a self-contained center with electric power, water and sanitary facilities provided, as well as adequate catering for a hungry public. Each of the large implement companies was represented by a very comprehensive exhibit, one of them having 55 different pieces of machinery on display. Loud speakers carried the voices of demonstrators to all who were interested enough to listen. Tractors and combines turned endlessly and unguided, on sawdust circles. The head office building, round-roofed and about 40 by 60 feet, had been especially erected for the four-day event. The distance from one end to the other of the tented city and from the tented city itself to the outlying plowing areas was so great that tractor lorries were provided. These moved constantly from the tented area to the fields and back, carrying 20 to 30 passengers each, at no charge. Members of the Carleton County 4-H Clubs had been drawn on heavily to man these tractors and to regulate traffic in the huge car park.

Aside from the regular competitive events and the magnitude of the whole affair, one special competitive event drew a great deal of public notice and was believed responsible for attracting at least 10,000 people to the grounds on Wednesday. This was the mayors' tractor plowing class. It had been hoped originally that Mayor Charlotte Whitton, Ottawa's colorful chief magistrate, might plow the opening furrow on the afternoon of the first day. Mayor Whitton not only agreed, but issued an immediate challenge to any or all mayors, male or female, anywhere in Ontario, to meet her in competition. In the event, she lost to the mayor of Toronto, whereupon she publicly apologized to the people of her city for allowing anyone from Toronto to best her, and said that she would rather have seen the mayor of Hong Kong win the title.

IN the more serious competitions the rules provided for the use of jointer plows (at least an eight-inch share and 6½-inch breast), furrows at least nine inches wide, and average depth at least six inches. The crown was to consist of three rounds, or six heavy furrows, when a single-furrow plow was used; and contestants were permitted to shape furrows by hand, foot, plowstick, or otherwise, only for the first two rounds, the last green round, and the sole furrow. The finish consisted of the last three rounds and the sole furrow.

What a contestant's plowing looked like from one end of his work was not necessarily an indication of its general excellence. Most judges refused to form opinions until they had gone over the whole job. They were interested in noting how much, if any, grass was left exposed in sod plowing, how even the furrows were in depth, how accurately the plowman gauged the width of the furrow, how smoothly succeeding rounds "led off" from the crown. When the time came for the plowman to cast off and finish his land, they noted the skill with which he adjusted both width and depth of his furrows so as to secure a last green furrow of exact width and avoid too much depth in his sole furrow.

Indeed, one could not help but marvel at the skill and extreme care which was required to produce a high-scoring land. The Country Guide had the good fortune to be escorted by Russell Beilhartz, President of the Ontario Plowmen's Association, and himself a judge. The two trans-Atlantic classes were examined, one for horse plowing and the other for tractors, and it was clearly evident that in good competition no class could be considered won until the sole furrow was completed. Indeed, by comparison with the top plowman in each of the two classes, even a novice could fairly readily disqualify many of the contestants from the top places.

The two 1952 champions, who will go to England and Scotland this month as guests of the Imperial Oil Company, are both dairy farmers. Winner of the tractor-plowing championship was Douglas Reid of Brampton, Ontario, who farms 285 acres of Peel County land with his father. The horse-plowing champion was Algie Wallace, a Carleton County dairy farmer, who farms 225 acres in North Gower, south of Ottawa. Second to Wallace was a 17-year-old Ontario farm boy of Hornby, who, the day before, had won first prize in a class for those who had not previously won a first prize at an International Plowing Match or were under 18 years of age. Second place in the championship tractor class went to Ivan McLaughlin, Stouffville, who was making his seventh try for the overseas trip.

A new class this year for two-furrow tractor plowing in sod replaced the former inter-county horse-plowing class for juniors. It was the inter-secondary school competition, for which teams of two pupils are chosen by the principals or the teachers of agriculture in any secondary school in Ontario. Ten school teams competed and were representative of both eastern and western Ontario. Each member of the team had to plow and the judges scored the team work.

When one attends, and, as it were, becomes a part of, a huge and most impressive event such as the 39th International Plowing Match and Farm Demonstration, it is almost inevitable that one should inquire—of persons who should be able to answer—what the goal or purpose of such an event is. Does it achieve these purposes? Has farming in Ontario benefited from the holding of these monster gatherings and competitions? Is the average plowing in the province any better today than it was ten, 20, or 40 years ago?

The answers received varied. For some, the cost in time and money was justified by the widespread interest evident year after year, first in the numerous local plowmen's associations and finally in the inter-provincial competitions. Apparently it is believed that farmers benefit from an opportunity to exercise the competitive spirit, and that the glamour and publicity and the feeling of achievement, exerts an effect far beyond the farms of the individual competitors. That this effect is impossible to measure precisely, it is argued, does not invalidate the argument.

Others regard the farm machinery demonstration as the chief source of advantage from the annual event. It is claimed that in this day, when

mechanization is exerting such a powerful effect on farm practice and methods, few developments could be more useful than the tented city, and the opportunity provided farmers from near and far to examine at leisure the many labor-saving, cost-reducing, and efficiency-producing types of equipment which exhibitors can jointly bring together for display. They do not deny the attractiveness of the competitive plowing classes. They grant the value of competition in the larger field, for those who have won supremacy in local matches. They are glad that agriculture has, in the plowing matches, something with which to attract large numbers of urban folk as well as farm people. They believe,

nevertheless, that from a farm point of view, while the competitions are of great interest, and to a lesser degree instructive, it is the opportunity presented to all farmers to visit the tented city, which in the long run really pays the dividends.

The truth is, perhaps, that events of this kind mean one thing to some farmers who attend, and something else to others. The fact that Ontario's International Plowing Match and Farm Machinery Demonstration is now entering upon its fortieth year would suggest that next year, when the occasion is celebrated at Port Hope, the plowing contestants will be just as numerous, and the tented city just as large, as at Carp in 1952.

Newfoundland Raises Low-Cost Mink

Codfish in summer, and seals in winter, come up close to be caught for feed

by D. W. S. RYAN

MOST of Newfoundland's mink ranchers are by the sea; and the abundance of fresh food which they can drag from its waters enables them to raise their mink cheaper than ranchers elsewhere in Canada. Some Newfoundland ranchers can raise mink for as little as \$3.25.

At least Percy Gillard of Springdale in northern Newfoundland can do just that.

Percy has a ranch of over 300 mink which fetch him around \$18 on the average for his pelts. On his ranch by the sea he has three varieties of mink—silverblu, dark standard, and black cross. His silverblu fetch him the best prices.

His feeding costs are low because he is able to catch plenty of fresh fish off shore. From the time his mink are born in May until he kills his stock in mid-November he is able to catch cod and other fish within sight of his ranch. Thus, during the breeding and growing season his feeding costs are very low. Only during the winter season does he have to depend somewhat on commercial feeds. Even then some cheap feed may come his way. Seals may approach the shore in early spring, as they often do when the ice packs in on the land; and if he's not fortunate to secure some of them himself, he can buy the meat cheaply.

Percy started the mink ranching business about 12 years ago and

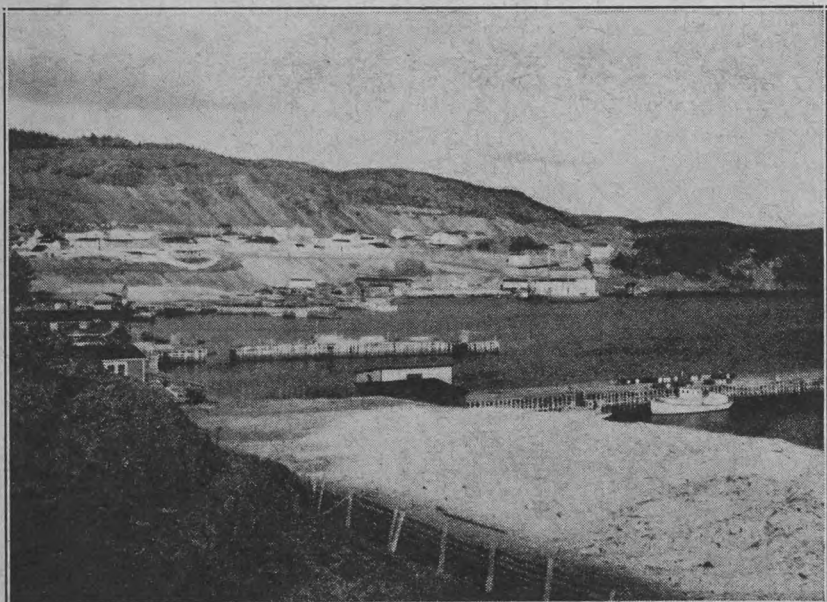
today it's his full time occupation.

Mink ranching in the island province is expanding rapidly. The provincial government is giving financial assistance and free training to ranchers desirous of making fur farming a vocation.

Under the government policy, student ranchers residing in a certain area are brought to a center. There, they learn first hand from an experienced rancher, by working on his ranch for a short period, and taking a short course. When their period of training is completed they are given loans for the purchase of foundation stock—15 mink altogether—and sufficient ranching materials. This loan is given on a long-term basis.

This past year the government introduced its training program and some 40 students have completed courses and have now set up ranches in their villages along the coast. It will take a few years before they will have sufficient stock to make any worthwhile profits.

At the present time there are 60 ranchers in the island who have a combined total of some 8,000 mink, an average of 135 per ranch. However, as the government's training scheme expands and mink ranchers become established in the business, mink ranching may eventually take the spotlight among the minor industries of the island.



View of Springdale, chief mink ranching settlement in Newfoundland. The Gillard ranch is just behind the schooner (right background).

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Holly Knoll Farm

When you festoon the house with holly at Christmas you are helping to make a living for some B.C. farmers

by C. V. FAULKNER

HAROLD and Frances Richardson of Brentwood, Vancouver Island, have a big stake in the Christmas holly market. Plantings on their 15-acre "Holly Knoll Farm" overlooking lovely Saanich Inlet will soon reach 750 trees, backed by 850 spiny seedlings in the farm nursery to take care of future needs.

To balance the farm economy Holly Knoll's acres are given over to three permanent crops: holly, cherries and filbert nuts, each being harvested at a different time of the year. Cherries finish during the early summer; filberts are gathered in October, well in advance of the first holly cutting at the end of November.

"Cherries are a reliable crop, but foreign imports have taken the profit from nuts," Richardson said. "However, I'm relying on my holly to bring home the bacon."

"Bill" Richardson, as his friends have nicknamed him, considers holly an ideal crop. Holly trees beautify the farm, and with adequate care they can live for centuries. No other crop offers the freedom from routine chores or yields the annual return for such a modest initial investment. One doesn't even have to create a demand for holly because everybody wants some at Christmas time. Every Christmas card, in fact, is a free ad.

Biggest handicap facing holly growers is the eight to ten-year wait for trees to mature. Since taking over Holly Knoll six years ago, the Richardsons have been making their holly land pay by inter-cropping with low growing crops such as tulips and iris bulbs which will be gradually discontinued as their trees come into full production. At first they attempted to speed things up by planting a few eight-year-old trees, but from their experience with these consider it a questionable practice to transplant holly of that age.

"If you plant four-year-olds you can cut commercially in four or five years," I was told, "and your trees will have more vigor."

English holly (*Ilex aquifolium*) is the species generally used for Christmas decorations, but there are many varieties. Most prevalent of these are the Common English, Dutch, and Variegated forms. The first named has a spiny leaf and is favored for holly sprigs, while the second features a larger, more uniform berry, ideal for wreath making. However, it is the Variegated forms such as Silver Variegated, with its silver-penciled leaf margins, that are expected to command future markets for both wreath and sprig holly. Although plantings of the new hollies are still few in num-



Cutting Christmas holly at the Pacific coast.

ber, already they are bringing prices a good 20 per cent above the North American average.

In Bill Richardson's opinion the best place to obtain young holly stock is either Holland or Oregon. Although he has imported 150 four-year-old Holland trees this year, he's inclined to favor Oregon trees, because the latter are typed and named. Oregon growers are fully aware of the trend toward quality holly, bred true to type from one tree foundation stock. In recent years they've been in the forefront in the breeding of new "gilt-edged" variegated forms.

"Good trees are hard to pick up locally," Richardson said, "new growers should select the best available unmixed stock."

English holly can be propagated by either seed or vegetative means. It is a dioecious plant; female trees produce flowers without viable pollen, and are dependent on male trees for pollination. Holly is insect pollinated, and in normal years one male tree will produce enough pollen for 50 females.

However, growers planning to raise their own stock for commercial production, are advised to adopt vegetative propagation; seed plantings generally give a wide range of types. Tip cuttings from well-matured current season's terminal growth, treated with a proper rooting hormone, are ideal because they give holly with root and branch systems identical to that of the parent stock. Two or three years are required for cuttings to produce trees large enough for orchard planting.

"Holly should never be crowded in the orchard," Richardson states, "at least 25 to 30 square feet per tree must be allowed for permanent plantings."

Best time to plant is either spring or fall, depending on your land. Young trees are very sensitive to "wet feet." At Holly Knoll, where the soil stays wet most of the winter, plantings are made in springtime to give new stock benefit of the drier months.

Bill Richardson favors a sawdust mulch around his trees to keep weeds down.

"Too much cultivation raises a fine dust which settles on the leaves," he said.

At harvest time all the equipment needed is some pruning shears and a few ladders. Cutting should be light during the first few years because

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heavy cutting has a dwarfing effect on the trees. It should be distributed over the whole tree as much as possible, leaving the central leader intact until the tree gets too big. For bulk shipment, five-inch to 12-inch holly cuttings are packed in ten pound cardboard boxes lined with wax paper.

"With reasonable care a grower should get about 35 pounds per tree," I was told.

Holly has been a symbol of Christmas good cheer for hundreds of years. It just wouldn't be Christmas without that shiny wreath in the window, or the curly sprig on top of the plum

pudding. Today, however, the quality of the holly market is undergoing a pronounced change. Soon the stems, leaves, and berries of commercial holly sprays will have to conform to set standards of color, shape and texture in order to sell. Plantings made now will come into production when competition is such that only the highest quality will find a market.

To quote one of Oregon's leading growers:

"In the next ten years new, named and tested horticultural varieties will compete for markets now enjoyed by inferior hollies."

With an "eye to the future" Bill Richardson played a leading part in organizing the Vancouver Island Holly Growers' Co-operative Association about three years ago in an effort to improve the quality of local holly. The move was an outstanding success. The organization has doubled the membership every year since its inception. Thirty members are now on the roll, all of them enthusiasts.

In the words of their founder and president. "Since we've taken more care with growing, cutting, and shipping, our holly market has greatly improved as to volume and price."

Grow Them in Water

Hydroponics, the new way of growing plants for food and decoration eliminates weeds, dirt and digging

by A. L. KIDSON

THE housewife who likes to try out novel and striking effects for indoor decoration will find special interest in water-gardening, or hydroponics. So, too, will the cramped city dweller, who often finds a natural love for "watching things grow" frustrated by the lack of soil or space. As a commercial project, hydroponics—or "tank farming," as it is sometimes called—has been tried out successfully in Britain, the United States and elsewhere.

For many years the botanical laboratories have been growing plants by water-culture, as part of their normal routine. Most of us can recall childhood experiments with the sowing of wheat and other small seeds on damp blotting paper. Daffodils and other bulbs can easily be brought to the flowering stage, indoors, by supporting them in jars of water; while the ordinary sweet potato, water vines, ivy, wandering Jew, and quite a range of similar plants, all lend themselves to this means of cultivation.

Not until 1929, however, was it considered feasible for large-scale food crops to be raised by such methods. Pioneer in the field was the Californian scientist, Dr. F. W. Gericke, who produced potatoes by the hundredweight in ten-foot tanks. He is claimed to have grown them at the rate of 40 tons to the acre, plus 224 bushels of grain. He and other experimenters were soon raising large quantities of corn, legumes, tomatoes, root vegetables, and onions; lettuce, spinach,

cabbage; a wide range of annual and perennial flowers; and most varieties of bulbs . . . all with the aid of water, a few added chemicals, and sunshine.

Investigators have worked out and published a host of ideas as to the best way of combining these chemicals. All agree that a good water-culture needs to contain the six major elements—calcium, magnesium, potassium, nitrogen, phosphorus and sulphur. Equally essential are the "trace" elements (so-called because they are needed in only minute quantities) boron, iron, manganese, zinc and copper.

These minerals must be used in a form easily dissolved by water. A handful of nails, for example, would hardly do for the iron, or an old kettle for the copper! You can, however, purchase cheaply enough the following compounds which together will make a useful water-culture for your first experiments:

Mono-potassium phosphate, 5.9 grams, or 1½ level teaspoonfuls; calcium nitrate, 20.1 grams, or four teaspoonfuls; magnesium sulphate (Epsom salts), 10.7 grams, or 2½ teaspoonfuls; ammonium sulphate, 1.8 grams, or one-half teaspoonful. Dissolve each amount separately, with one pint of water for each. Mix all the solutions together, and then add a further four gallons of water.

This is your "bulk" supply, which can be stored away in a shed or cellar, for use as required. To it must be added about two teaspoonfuls of a trace element solution. You can make that by dissolving in a pint of water about a quarter teaspoonful each of zinc sulphate, manganese sulphate, and boric acid. It will be noticed that so far the mixture contains no iron. This should not be added until you are ready to supply your solution to the plants. At that stage dissolve about a quarter teaspoonful (.8 of a gram) of ferrous sulphate in a pint of water. Add to the bulk mixture at the rate of one teaspoonful for every quart.

Next requirement will be some form of tank or container. This should be deep enough to hold two or three inches of the solution. Glass tanks or jars make for spectacular displays, or indoor decorative effects. Tins or metal drums can be used, but these should be coated on the inside with non-toxic paint, so that rust and corrosion do not interfere with the action of the chemicals. A stand or frame will be needed to house the container. Last item in the outfit is a wooden

tray, or frame, large enough to cover the container. This tray should be about three inches deep, and made of wood. Bottom of the tray will consist of slats or netting, to hold a layer of damp moss, soft bark, or wood-wool shavings mixed with peat. Any material, in fact, that will remain moist and serve as a "bed" for your seeds, cuttings, or seedlings. Rest the tray on top of the container, an inch or two above the level of the culture solution. When the plants have developed a vigorous root-growth, the water in the tank should be reduced to a depth of about two inches. To support climbers such as beans or sweet peas, or other plants with a strong upward habit of growth, you will need to rig up a trellis of string, wire, or wooden slats, just as you would for an earth garden.

In her handbook on hydroponics, Mrs. W. J. Hilyer, a former member of Britain's National Council of Women, who has done much to encourage the use of this system in England, gives some advice on how to introduce the chemicals into the water when making up a bulk solution. She recommends using an ordinary screw-top jar, with holes punched in the lid. This should be half-filled with culture solution and immersed in the water in your tank. After about a month replenish the contents of the jar. In the meantime, chemical action in the tank should be stimulated and the water aerated by means of an ordinary bicycle pump or garden syringe. If the plants show any signs of yellowing correct it by introducing a little iron chloride.

The advantages of this type of gardening are clear enough—no digging, no hoeing, no weeds; no losses from floods or drought. It was practiced on battleships during the last war to provide the crews with fresh salads and vegetables. Today, Allied troops in Korea are receiving supplies of greens grown on hydroponic farms in Japan. In fact, wherever space or soil is restricted, hydroponic methods can be used to advantage.

Mrs. Hilyer tells of maturing, out-of-doors, a winter crop of beans that had been covered for a time with snow. From roof-top water gardens in London she produced splendid crops of tomatoes, potatoes, marrows, peas, cucumbers—and a wide variety of choice cut flowers. Similar results can be looked for elsewhere, so long as your water-garden is placed where it will receive a maximum of sunshine and a minimum of cold winds.



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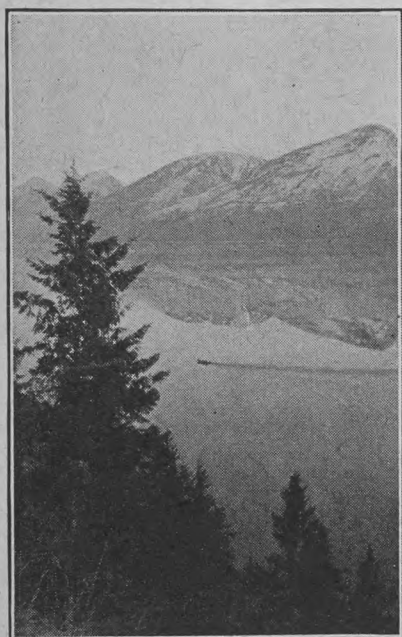
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Quiet relaxation is suggested by a combination of trees and mountains.

Line Breeding

Continued from page 12

this mating system is used. Any class or breed of livestock would serve, since the principles and procedures involved are essentially the same. I wish to use the one I know best—the Ayrshire herd at the University of British Columbia.

THE herd had its origin in 1929, from an importation direct from a number of herds in Scotland, of 23 females and one male. No females from outside have been added to the herd since that date. All sires, with the exception of three, that have seen service in the herd during the 23-year period, have been bred by the University. The three exceptions were used early in the program, were unrelated to the herd, and two of the three saw only moderate use. The last six sires in a row have been bred at the University.

During the first five or eight years the system of breeding was of necessity outbreeding. The program then gradually changed to one of line breeding.

The line breeding development has been based primarily upon the inheritance of two imported cows. Practically all of the animals now in the herd trace, from two to six times, to either or both of those two cows. Their names are Rosalind and Gladness. About eight years ago a son of a third imported cow was introduced into the breeding program. This inheritance is just now in the process of being concentrated somewhat, primarily through mating this bull to his own granddaughters. The name of this third foundation cow is Lassie.

This basic inheritance was selected for concentration, because of the high degree of excellence exhibited in all three cases in respect of production, type and longevity. All three produced well in excess of 100,000 pounds of milk (up to 150,000); all averaged over four per cent butterfat; all were of "Excellent" type, and they lived to be 16, 18 and 20 years of age.

Line breeding to two or three females is possible only through use of their male descendants. The bulls used in this program are listed below in chronological order, showing descent from the key females.

LINE breeding to Rosalind and Gladness became general in the herd when the first crop of daughters from Admiral and from Spitfire were mated to Spitfire and to Admiral, respectively. The mild-outcross bulls, White Cockade and Gold Standard continue the line breeding on one side of their pedigrees, but introduce new inheritance into the herd on the other side. Adonis, now a senior calf and Pacific National Exhibition Junior Champion, will be used in another herd for three or four years before seeing service at the University. His pedigree is quite typical of the present line breeding pattern in the herd. He is 12 per cent inbred and carries a relationship of from 21 to 24 per cent to each of the three foundation cows. He traces twice to Lassie and four times each to Rosalind and Gladness.

This young bull's pedigree illustrates fairly well, another very important principle in the selection of young sires, that must be adhered to under line breeding even more rigorously than when other mating systems are used. The pedigree must show strength

in close-up ancestors, as well as in the more remote ones whose inheritance is being concentrated. In particular, the young prospect's dam should be an outstanding member of a superior cow family. Adonis' dam, Royal, is now making her second record. Her first record is the second highest made by a Cockade two-year-old—15,221M (lbs. milk), 4.24 per cent (per cent fat), 646 F (lbs. fat), in 365 days. She is classified Very Good and is this year's reserve senior champion, and dam of the junior champion male, and of the second prize senior-yearling female, at the P.N.E. Two three-quarter sisters and a sister of her sire are P.N.E. grand champions. Royal's dam, Princess, and double granddam Lassie, are both well above average in production and both are classified Excellent.

On the top side of the pedigree it is desirable to have a thoroughly proven bull. The first records of Commodore's daughters, however, are just now being made. Commodore, 1951 P.N.E. grand champion, is out of the Excellent, P.N.E. Grand Champion Natalie, highest Canadian two-year-old in 1946 with 540 F in 305 days, and with three more records in 365 days of 606 F, 683 F and 712 F. Commodore's full sister is classified Very Good and has three records so far, of 565 F, 591 F and 624 F. All the records made by these three nearest dams of Adonis and by his sire's full sister, average out at 65 per cent above Ayrshire breed average for production of butterfat.

THE present herd numbers 80 head. The average percentage of inbreeding is 10.7, with a range from zero to 30.5. The younger half of the herd tends to carry a bit more inbreeding than the older half. In this younger group, a fair proportion are inbred to

the extent of 15 to 18 per cent. The average relationship of the herd to the three key cows is as follows: 20.7 per cent to Rosalind, 21.9 per cent to Gladness and 15 per cent to Lassie. Twenty of the 80 cows, however, are not descended from Lassie. The average relationship to her of the 60 that are her descendants is 19.9 per cent. It is apparent therefore that the program has developed in a way such that the three cows have contributed about equally.

The production picture has changed somewhat over the years. The original group of animals, while somewhat variable, were generally good producers. The first two or three generations of outbreeding produced animals that were not, on the average, as productive as the imported animals. This reached a point where, during a period about ten to 15 years ago, average milk production was a little above breed average, average butterfat production a little below breed average, with percentage of butterfat standing below breed average at 3.75. Since that time there has been a steady improvement to the point where, at the present time, milk production is approximately 25 per cent above breed average, butterfat production about 40 per cent above breed average, with the average percentage butterfat standing at 4.7. (By breed average is meant the average production of all R.O.P. Ayrshires in Canada—both qualified and non-qualified—for the period 1947-1951, inclusive.)

About every third bull used in the herd is of mild outcross breeding, introducing, either through his sire or his dam, inheritance that is new, or relatively new, to the herd. The son of Lassie previously referred to, whose name is White Cockade, is an example of this procedure. This bull is mentioned because he has been

responsible for a marked improvement in production. He has had 18 daughters finish records at the University. The first record daughter-dam comparison shows that the dams are slightly above breed average in both milk and fat, with the daughters superior to these dams by 2,582 pounds of milk, 0.42 per cent fat, and 151 pounds of fat.

Type has been maintained at approximately the same level through the years, with the general picture as shown by official herd classification, ranging from about 84 to 87 per cent. A second measure of conformation develops from the annual showing at the Pacific National Exhibition. For the last four years the University has won the Premier Breeder Banner, and in three of those four years, the Premier Exhibitor Banner as well.

Special production awards that might be mentioned include a sister of Cockade, the top two-year-old in Canada in the 12-months division in 1946, with another sister the second top two-year-old in the same division in 1948; a daughter of Cockade the top two-year-old in Canada in the 12-months division in 1951.

THOSE who study breed history and breed development become aware of the contribution made by various forms of inbreeding. Occasionally, very marked improvement has resulted from very close matings. In Canada, in modern times, probably the most outstanding example for a large section of a breed, of what line breeding can do, is in the Holstein breed. This occurred mainly as a result of the use made of three imported sires, Johanna Rag Apple Pabst in the East and Hazelwood Heilo Sir Bessie and Sir Romeo Mildred Colantha 6th in the far West. The widespread service of their many male descendants has resulted in a general line breeding effort over much of the breed.

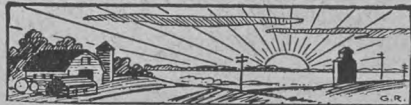
The very considerable use now being made of artificial insemination in dairy cattle makes possible, more readily than before, constructive and widely effective line breeding. In a number of A.I. centers in Canada, these line breeding programs are already developing. Their continuance and ultimate success requires a close adherence to sound principles of breeding. It will become increasingly important, in order to make further advances in the quality of our cattle, to observe the following fundamentals:

- (1) Long-range study and planning;
- (2) Proven sires—and the best only—to carry the main service load;
- (3) Sire exchange, from time to time, between A.I. units;
- (4) Proving, or arranging for the proving, of young sires of outstanding pedigree promise;
- (5) More extensive production testing in A.I. herds;
- (6) Line breeding—a gradual and conservative development based upon the breeding and experience of those efforts which, over a considerable period of time, have proven to be the most successful.

(Note: Dr. J. C. Berry, animal geneticist and associate professor at the University of British Columbia, is well known in both Canada and the United States as an authority on animal breeding.—Ed.)

Sires Used in UBC Line Breeding Program

1. Galahad { Gladness	2. Governor { Rosalind
3. Admiral { Galahad { Gladness Rosalind	4. Spitfire { Governor { Rosalind Gladness
5. White Cockade { Spitfire { Governor { Rosalind Lassie { Gladness	
6. Commodore { Admiral { Galahad { Gladness Natalie { Rosalind { Spitfire { Gladness Rosalind	
7. Gold Standard { Carnell Standard Bearer { Galahad { Gladness Peggy { Admiral { Rosalind { Governor { Rosalind Natalie { Spitfire { Gladness	
8. Adonis { Commodore { Admiral { Galahad { Gladness Natalie { Rosalind { Spitfire { Governor { Rosalind W. Cockade { Spitfire { Governor { Rosalind Lassie { Gladness Royal { Princess { Admiral { Galahad { Gladness Lassie { Rosalind	



Too Much Alike . . . Ants and Men

The propensity of ants to wage war is well known; not so widely recognized is their invention of the art of agriculture

by W. A. CLARKE

OVER two out of the three essentials needed to maintain life, the human race has little—if any—control. Water and air are provided by Nature, with man quite unable to increase or reduce the total quantity of either.

Only over food—the third necessity of life—has man a great deal of control. The practice of agriculture has not only enabled mankind to survive, but to maintain itself in ever multiplying numbers. For this man has to thank not himself but the ant kingdom, for ants were the inventors of agriculture—not man.

This was discovered by Dr. Gideon Lincoff, an American physician. Reporting his observations in a letter to Charles Darwin, he wrote: "Around the mound, the ant clears the ground of all obstacles, levels and smoothes the surface to the distance of three or

four feet from the gate of the city, giving the space the appearance of a handsome pavement. Within this paved area no green thing is allowed to grow except a single species of grain-bearing grass. Having planted this crop in a circle around the center of the mound, the insect tends and cultivates it with constant care, watches it ripen, then harvests the corn. After the harvest, all the chaff is taken out and thrown beyond the limits of the yard area."

It is quite likely that ants have provided other examples which the human race is unwittingly following, for the sameness of the organization of the two societies is astonishing. Nothing like the same parallel can be drawn with human and any other species of animals or insects.

The domestic life of ants is very similar to our own. Their young are reared in specially constructed nurseries, and in fine weather are taken into the open for an airing. Sensitive to change in the atmosphere, if the nurse ants feel rain approaching they rush their small charges back to the nests.

Ants also have doctors, who will often isolate a patient suffering from disease. Their medical "men" can also amputate injured legs and, in cases of hopeless illness, end the patient's suffering by ensuring a swift death.

Like ourselves, ants bury their dead and even have ceremonial funerals; bearers carry the dead ant to its grave and others cover it up.

A Mrs. Lewis of Sydney, Australia, has described what happened after she had killed a number of soldier ants who attacked her baby. Two ants carried an ant corpse, followed by two others apparently acting as mourners. Other couples followed every other pair carrying a dead ant. About 200 ants brought up the rear and when the procession reached a tiny hillock, about half the followers dug holes. The dead ants were laid inside, and the followers, who up to then had been idle, covered them up.

Some South American ants sow seeds—not in the ground, but in specially built hanging gardens. These structures are made by carrying soil

into trees and pressing it together to form a ball.

The "Umbrella," or leaf-carrying, ant of the American tropics, walks a distance each day which, if they were the same size as ourselves, would be the equivalent of *three thousand miles*. They also carry a weight which, for us, would mean three hundred pounds—and they take about three hours' sleep daily. This, and the building capacity of ants, gives us some idea of what we could accomplish if we had similar powers.

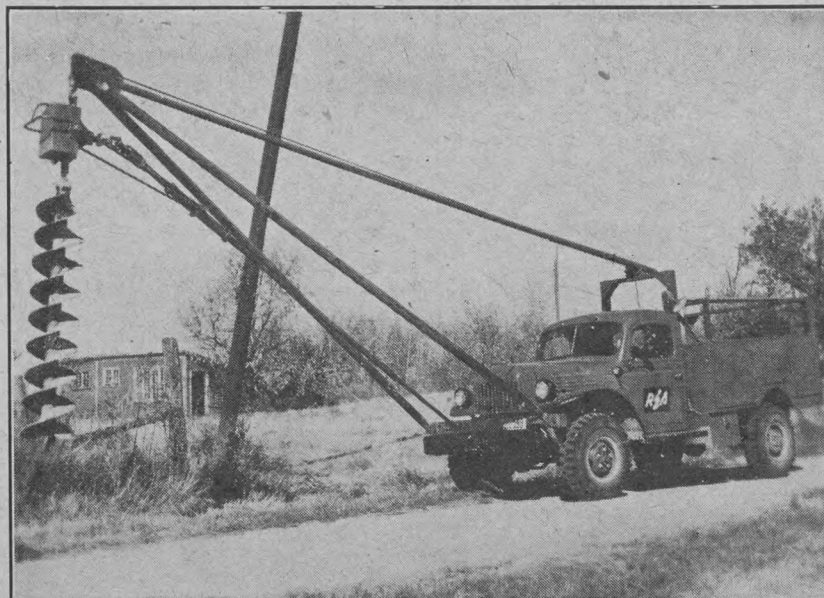
The Pyramids of Egypt, long listed as one of the "Seven Wonders of the World," are an impressive monument to man's industry. Yet, if we built houses in the same proportion to our height as ant-heaps are to the height of ants, they would be 84 times as tall as the tallest of the Egyptian Pyramids, which is 481 feet high. Imagine houses 40,000 feet in height and compare them with the 1,250 feet of the famous Empire State building in New York—yet we could build to this degree given the capacity of the humble ant.

Nearly 2,000 years ago Pliny, the famous naturalist, stated that ants have monthly holidays when they do no work and do not stir out of their nests. He further asserted that they also observe marketing days. Scientists of later days have gone even further and have maintained that although thousands of ants reside in a single nest they know each other and that if an intruder arrives on the scene, he is instantly killed.

According to the scientist Huber, they even have sports days when the inhabitants of a nest assemble and indulge in hide-and-seek and wrestling contests!

Unhappily, ants exactly resemble man in his least pleasant aspect. Ants and men are the only creatures on earth that wage deliberate and organized warfare.

The ant can teach man much; but it can afford him no example of the art of living without periodical resort to war. So man can still prove himself superior in one particular. And it will be a great blessing to his own kingdom, if he does so without much more delay.



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Manning the Rural Routes

For 34 years Emmett and Tessie Berry have made twice-a-week deliveries of mail to the farm people around Westlock, Alberta

by H. E. MARTIN

THE Westlock and District Old Timers' Association in its memoirs takes pleasure in dedicating and preserving word pictures of its pioneer members and it is with warm appreciation and affection it commemorates at this time the Berry family.

Like other good things which are long continued and are taken for granted, the Berrys — Emmett and Tessie have carried the mail on Routes One and Two over the past 34 years. It is true the cash money paid them by the Government for this service has been a material assistance to their livelihood but they have, beyond the code of duty, endeared themselves to all by innumerable accommodations. Both Emmett and Tessie throughout the years, without thought of remuneration, have willingly and cheerfully undertaken the many errands incidental to their contract.

They are not the first mail carriers of our district, but they are the only ones whom many persons, now not so young, can remember. Tessie's little old buggy with its big white umbrella and Emmett's democrat struggling through the "base line" mud of the "twenties" and the scattered gravel of the "thirties" were familiar and jaunty turnouts. At the turn of the "forties" Emmett deserted the horses for early model cars, but Tessie continued with her buggy and umbrella. Now in the "fifties" with the "base line" improved to a modern highway the going is easier, but the side roads, many as yet ungravelled, still present their early difficulties with mud and drifts. In earlier days most of the settlers undertook to maintain their local roads, often without credit on their taxes, and in some localities their roads in those days were even better than they are now. But of course there was then less heavy traffic to rut them.

The Berrys have, in their devotion to duty, demonstrated the loyalty and durability of man. Throughout the decades, rain or snow, dust or mud, the mail had to be delivered and there were few who envied Emmett and Tessie their exposed and arduous missions. Tessie's umbrella-sheltered buggy especially was known far and near and symbolized hope and dread in the letters she carried. Mostly the mail was of good tidings and was delivered into eager hands. What could be merrier of a sunny Tuesday morning than to receive "that" letter or "that" parcel? Maybe it was a new dress from Eaton's and one was forthwith ready for the dance at Swatfigure's Hall over at Clyde or McTavish's Hall in Westlock. Maybe the Taylors or the DeSalliers would play or rarely there might be wonderful music from Edmonton. Ah! woe for vanished youth!

The mail was not the only thing Emmett or Tessie would bring. There was the box of pills from Tice's or McEwin's drug stores, or it might be a bag of sugar, a bottle of flavoring, a box of yeast, a tin of baking powder or a couple of spools—36 white and 40 black. For the men folk a can of tobacco or a machine part, or a jacket taken off and left inadvertently at the

livery barn or some store. Perhaps it was a can of coal oil or a box of carpet tacks, even a sack of flour.

More than anything else, the bi-weekly visit of the mailman made a bright spot in the farm's monotony. During the depressed "thirties" family after family discontinued their telephones, yet we needed to know of illness or death or weddings or births, or the need for a hired man or a neighbor's help. And it was further agreeable to retell our own joys or woes, be it only a good hatch of turkeys, or eleven pigs in a litter, or the first potatoes. During threshing it was urgently important to know where men with teams could be had and the approximate progress on the place next to our own. For the conveyance of these items of homely news we are indebted to Emmett and Tessie.

In order to have the letter right up to the minute, how many people have written it on mail morning while a younger member of the family watched for the familiar vehicle? And how many letters to far countries and distant seas have closed on this note: "Here comes Tessie! Good-bye for now?"

OF late months younger members of the Berry family have occasionally staffed the routes with the same courtesy and efficiency. No doubt many people could place the letters and papers into the boxes, but no matter how excellent the service will be, it will never be quite the same to the old-timers. And wherever we go and however we wander, the little old buggy with its canvas umbrella will always be a part of our lives and our memories.

Mail carrying may be like other vocations, a traditional occupation of some families. The Berrys originally came from the United States. Emmett came from Minnesota to Edmonton in 1900 and to Edgson in the Westlock District in 1906, homesteading south-east of the town. Tessie came from Nebraska, her people setting forth with covered wagon and saddle horses in the early summer of 1902, wintering over in Montana and arriving at Edgson the following summer. Tessie rode the entire way on horseback. Tessie's father, Harry West, who also filed on a homestead in the area, was appointed the district's first mail carrier on Route One in 1914, his daughter and her husband taking it over when Route Two was established in 1918.

It is assumed that Tessie and Emmett first met each other in our countryside and, in the manner of young folk the world over, fell in love and were married in or about 1909. For the many years, they have dwelled and raised their family on Emmett's homestead some three miles south-east of Westlock where they still reside. Their 34 years of carrying the mail have covered an epoch of change in development of our district, and contemporary with the sleek automobiles of the modern day, Tessie's little old buggy with its canvas umbrella remains an unchanged reminder of the earlier days.

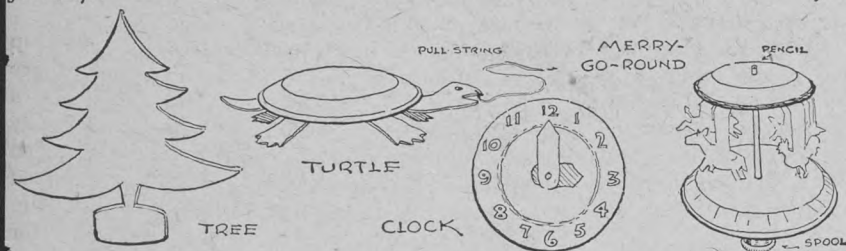
The Country Boy and Girl

OUR thoughts turn to plans for Christmas during crisp November days. Boys and girls want to give presents and always there is something special about a gift you plan and make yourself. We have suggestions for a gift for Mother and one for small brother and sister.

For Mother you could make a holder for pins and needles from a piece of felt from an old hat or a bit of flannel. A green color would be best, cut your material in the shape of a Christmas tree about four inches tall and three inches at the widest branches. Cut two trees to get enough thickness for a good needle-holder, then sew them together.

For small brother and sister you can make all kinds of things from paper pie plates—a merry-go-round from two different sized plates with a bright red pencil for a center pole and silver tinfoil cutouts hanging from the top plate for the merry-go-round animals. Under the bottom plate an empty wooden spool holds the pencil upright. Color the pie plates in bold patterns with bright crayon colors. You can also make a turtle from a pie plate for a pull toy for a little boy or girl—just fasten a head, tail and four feet on the pie plate and let the pie plate be the turtle's shell. A clock face can be made on a pie plate, with the numbers cut from old calendars and the cardboard hands fastened on with a paper fastener so that they can move to the numbers. A pie plate makes a good picture frame for a picture you cut from a magazine or for one you draw yourself.

Ann Sankey



The Big Stocking

by Mary Grannan

ONE Saturday morning, in early November, Trudie Trenton hopped into the kitchen on one foot, and called to her mother in the pantry, "Hello Mum, and good morning Mrs. Trenton, and do you have the breakfast ready? because I'm in a hurry."

"Hello Trudie," laughed her mother, coming into the kitchen, "and what is this great hurry you're in? Are you going out to chase the snowflakes that are falling?"

Trudie shook her head. "No," she said, "I'm not going out today. I'm going to stay in all day. I have something to do that's going to take me all day."

Mrs. Trenton looked puzzled. Trudie saw this, and said, "I'm going to write to Santa Claus."

"Surely that's not going to take you all day!"

"Oh, yes it is," said Trudie. "I have so much to ask for, and I have a big, new note book that I'm going to fill up, with writing. I know that all the other children are going to play out in the snow today. They haven't even thought of writing to Santa Claus yet, and I'll be the first to write, and so he'll have to fill my order first. I'm being smart, Mum."

"You're being selfish, Trudie, not clever," said Mrs. Trenton. "I don't like what you're doing. I'm very disappointed in you. I'm going to make a suggestion. When you write to Santa Claus today, ask only for things that will go into a stocking."

Trudie's face fell, and then brightened again. "Things that will go into any stocking, Mum? Does it have to be my own stocking that I wear everyday?"

Mrs. Trenton laughed. "Any stocking will do," she said. "It doesn't have to be one that you wear everyday."

Trudie thanked her mother, and ran to the living room and to the calendar that stood in its little leather case on the desk. She began to count the days. "I can do it," she said to herself. "I've enough days before Christmas to do it."

Then she placed her new notebook on the desk, and began her letter to Santa Claus. After the usual greetings, she set down her list of things she wanted in her stocking. "I'd like a new doll," she wrote, "and a trunk full of doll's clothes, a blue doll's bed, and a big panda bear. Please bring me a red sled, a pair of skis, a pair of speed skates, and a skating costume. I'd like three books, two games, a new dress, a new hat, white fur mittens, and a fire truck with ladders, a string of red beads and a grey velvet kitten, a box of candy and three candy canes. Please bring me a little pink music box, too, and a cuckoo clock for my bedroom." She signed her name, put the letter in an envelope, addressed it to Santa Claus, and then went to the corner to the mail box.

When she came home, she asked her mother if she might have the large circular knitting needle that Mrs. Trenton had used for knitting a skirt.

"But whatever are you going to do with it, Trudie?" mother asked.

"I'm going to knit the biggest stocking in the world," said the little girl.

The November days passed one by one, but Trudie did not enjoy the crisp air of the outdoors. She sat inside, knitting. Klickety klack, klickety klack went the needles.

"No good is going to come of this, Trudie," said her mother. "I know that I said that you might hang any stocking, but I didn't even dream that you were going to make the biggest stocking in the world."

At last the stocking was finished. It was made of many colors, because Trudie had used every scrap of yarn that she could find around the house.

She hung the stocking on a coat hanger in her clothes closet. Its foot dragged on the floor.

One night she was awakened suddenly by strange voices in her room. She sat up and saw two little green elves on her window sill. Each had a sprig of holly in his cap. Trudie laughed and said, "Hello little goblins, where did you come from?"

"From Santa Claus Land," said one of the tiny fellows. He turned to his brother. "It's in the clothes closet. You get it and I'll get her."

Trudie, frightened now, called out for her mother. "Your mother can't hear you," said the first goblin, "so there's no use of your making a fuss. We're going to put you into the biggest stocking in the world, and carry you off to Goblin Land, and we're going to keep you there until after Christmas." He picked Trudie up as easily as you can pick up a doll, and he stuffed her, head first, into the big stocking. Then they flew off with her, into the night.

When they set her on her feet again she found herself surrounded by Christmas elves. They were all frowning at her.

"Please, please let me go home," begged Trudie.

"There is but one way for you to go home," said the goblin who had dumped her into the stocking. "Unravel the biggest stocking in the world. We know why you made it. We know everything about you. We've made up our minds that you won't be home to hang that stocking, you selfish little creature. So take your choice. Stay here until after Christmas, or unravel that stocking."

The next morning, when Trudie went to breakfast, she was carrying a great ball of wool.

"Trudie, dear," said her mother, "where on earth did you get that? What is it?"

"It was the biggest stocking in the world, Mum. You were right. I have been mean and selfish, but I wouldn't believe until the goblins came," said Trudie.

"The goblins came?" said mother. "Are you sure you haven't been dreaming, Trudie?"

"Perhaps I was dreaming," said the little girl. "Perhaps it was all a dream. But it doesn't make any difference. I don't want to hang the biggest stocking in the world, Mum, would you please let me have one piece of paper. I have to write another letter to Santa Claus."

Sketch Pad Out-of-Doors

No. 10 of series—by CLARENCE TILLENIUS

WINTER landscape is sombre or sparkling by turn. On a grey day, when the blackened trunks of the fire-killed rampikes are etched against a steely sky, and only the dull yellow of the grass provides a touch of contrast to the white-shrouded green of the spruces, the country seems a symphony of grey, white and black.

But let the dark sky begin to break up into white, billowing clouds and patches of blue! Suddenly the sun breaks through, sparkling on the new-fallen snow, and the scene is instantly transformed. The evergreens now show rich dark green fringing the masses of white that drape their branches, the distant woods are purple and grey against the blue sky and the

ochery-white cloud. The red willows and rushes that border the marsh shine crimson and gold across the open glades. The shadows of the trees weave interlacing patterns of lilac and blue.

There is a wonderful exhilaration in a winter's day. In the woods, the cheery "dee-dee-dee" of the chickadees as they confidently flutter about you, seems to emphasize the stillness of the winter woods, a stillness that is made more profound by the occasional scream of a noisy blue-jay, or the distant "tap-tap tap-tap-tap" of the downy woodpecker.

These are the sounds of winter! When you stop to sketch, let it be in surroundings such as these. In later days, you will only have to take out your sketch—imperfect though it may be—to be instantly transported to a time of happy memory, a world of stillness, of peace and endless beauty.



THE *Country* GUIDE

with which is incorporated

THE NOR'-WEST FARMER and FARM and HOME
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VOL. LXXI WINNIPEG, NOVEMBER, 1952 No. 11

Sensible Conservation Policy

THERE is evidence that the provinces, who control our natural resources, are beginning to recognize, at long last, the need for a national conservation policy. Under the circumstances, the role of the federal government must necessarily be that of a co-ordinating agency, able to supplement the efforts of the individual provinces, where necessary, from the national treasury. The relationship calls for sound planning, good will and tact. The overriding interests of the nation, and the immediate interests of the provinces, must be harmonized to the advantage of future generations of Canadians, if we are to use these resources wisely.

Since World War I we have heard a great deal about the conservation of natural resources. Special departments of government have been set up to guard and develop them. Indeed, more than 40 years ago, Canada established the Commission on Conservation, which, after 12 years of successful and lasting work, was dismembered to serve political purposes, and its pieces distributed among several government departments. During the last quarter century, nearly all progressive countries have become increasingly concerned about the rapid rate at which the growth of population and of industry tends to use up resources. The United States, which produces close to half of the world's industrial output, is seriously concerned already about the rapid disappearance of its vast heritage of coal, oil, soil and underground water. European nations have recognized for many years the folly of wasting the resources which nature has provided. Canada's undeveloped resources are perhaps greater than those of any other industrial nation, in proportion to our population, but we owe this fortunate circumstance more to our delayed development, than to our foresight.

Many books have been written on the need for conservation. There is a growing awareness of its importance. Since the formation of the Food and Agriculture Organization of United Nations, the whole literate world has become much better informed about the relationship which exists between soil wastage and food supply, between soil and water management and economic well-being, and between food and world peace. Unfortunately we have yet to translate this awareness into effective action. Not only are nations still unable to work together closely enough to solve their common problems, but within a single country it is often difficult for regional and central governments to bury their differences in a search for the common good.

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NO other natural resources are as basic to the maintenance of a country as its soil and water; and there ought to be widespread appreciation of this fact. Both soil and water are, however, subject to wastage. Controversy exists, it is true, as to the extent to which harmful wastage occurs, though there can be little reason to doubt the rapidly accumulating evidence that, with the passage of time, any appreciable loss takes on increasing significance. Fifty years ago Canada had a population of five million people, the United States about 100 million. Today Canada has 14 million people and the United States 156 million. We know, too, that the populations of other countries throughout the world are increasing at an unprecedented rate, while the total amount of potential farm land has remained the same, if it has not actually decreased. Likewise, we know that because of the nature of the Canadian economy, we export annually a very large amount of our soil fertility in the form of wheat and other products, with no balancing imports, except costly commercial fertilizers, to replace it.

Adam Smith once said that there is a lot of ruin in a nation. It is true also of soils. Misuse and mis-

management can destroy, in a single generation, what nature required an almost unbelievable amount of time to build up. Today, however—where moisture deficiency and erosion are not limiting factors—man can rehabilitate in a decade or less, the worn-out topsoil, which nature required perhaps several thousand years to develop. The conservation of agricultural land, however, presents a many-sided and highly complex problem. Soil conservation and water development go together. The end product is proper land use, which means planning on a broad scale for crop and livestock production, protection against drought, the prevention of erosion by wind or water, land drainage, irrigation development, flood protection and land reclamation.

What is required today in agriculture is a balanced approach to conservation. The simple fact is that while science and mechanization have materially assisted in increasing the nation's food supply, there is equal reason to believe that gains so made can be dissipated by the misuse and wastage of soil. The responsibility for misuse is often an individual one, but the responsibility for wastage belongs largely to society.

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IT is, therefore, of particular interest to Canadian agriculture that a delegation of provincial ministers of agriculture met the federal minister of agriculture not long ago, to request that the principles underlying the work of P.F.R.A., be applied across Canada. The delegation is also reported to have voiced grave concern over the fact that provincial governments tend to attach far less importance to the diversion and use of the waters of rivers and streams for agricultural purposes, than to the protection of cities and towns from the danger of flooding.

The truth seems to be that in most Canadian provinces the problem of adequate soil and water conservation is too serious to be solved entirely by the provinces. We urgently need a national soil and water conservation policy. Since 1935 an excellent beginning has been made within the Palliser Triangle, the area to which the Prairie Farm Rehabilitation Administration has been restricted. The value of the work already done is beyond calculation, but what Canada really needs is a general purpose, rather than a special purpose, policy and program.

The ministers might well have gone much further in their representations. They could well have urged that in any national or provincial program involving soil and water conservation and development, the responsibility for administration should rest in departments of agriculture, both provincial and federal. We already have too many examples of divided responsibility within provincial governments, including the governments of Manitoba and Alberta, which have led to inefficiency and lack of progress. If we are not to lose valuable time, and money which we cannot afford to squander, it is imperative that all senior governments in this country agree on one important administrative principle. The principle is that whenever conservation policies are applied, either to land or water for the benefit of agriculture, such policies and programs should be planned, administered and developed, by those who are trained and employed to serve agriculture. Too many millions of dollars have been lost in this and other countries, for us to entrust these primary responsibilities to engineers, indispensable as they are. Similarly, central administrative officers in departments other than agriculture, are too far away from the soil and its needs, and from the farmer and his problems, to fully realize that these are the really basic factors involved.

The experienced agricultural administrator, agronomist, soil scientist, agricultural economist, and agricultural engineer, as well as the non-agricultural engineer, are each essential to a well-planned and effectively developed program. Surely, simple logic demands that the men and departments designated to carry the heaviest responsibility for the execution of any policy involving agricultural land, or water for such land, should be those specializing in agricultural matters.

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THERE is a real and present danger that the foolish and costly errors of the past may be carried over into any new national, or joint federal-provin-

cial policy that may be devised for the future. This must not be, if it can be avoided. Ministers and senior civil servants in departments other than agriculture, can find many worthwhile ways of serving the Canadian people without encroaching on fields primarily agricultural, where they cannot work effectively.

The farmers of Canada—623,000 of them—have an important stake in such policies. Their more than seven billion dollars of investment in land, buildings, and equipment, their important responsibilities as custodians of the soil and producers of food, to say nothing of their rights as interested citizens, should be sufficient proof of their right to be heard. In the last analysis, the end products of soil and water conservation are farm products economically produced, now and in the future. If the farmer is to do the job that is expected of him, he should at least be permitted advisers who understand his problems.

The St. Lawrence Seaway

THE St. Lawrence Seaway and Power Project approved by Parliament in December, 1951, will, when completed some years hence, represent the successful conclusion of an agitation extending over half a century. Ocean-going vessels will be able to move into the very heart of the continent, and after climbing a height of 600 feet with the aid of a series of locks and canals, through an all-Canadian waterway with a 27-foot channel, reach the Head of the Lakes, from any seaport in the world. Last month the International Joint Commission approved the \$400 million power project to be developed by Ontario and New York State in the International Rapids section of the St. Lawrence River.

Including both seaway and power project, the estimated cost of the entire undertaking was \$704 million some months ago. Cost of the power project will be borne jointly by Ontario and New York State, who will share the 2.2 million horsepower of electric power to be developed. Ultimately a total of nine million horsepower can be developed to advantage along the Great Lakes-St. Lawrence Waterway, of which two-thirds will be Canadian and the remainder American. Canada will bear the entire cost of the Seaway (about \$300 million), unless the United States finally decides to go along with us.

Three arguments have been consistently advanced as reasons for the St. Lawrence development: (1) to relieve the congestion of railway traffic, (2) to reduce transportation costs, and (3) to permit of the development of waterpower. Every Washington administration since 1920 has endorsed the scheme, and every Canadian government since 1928. The midwestern states have supported it consistently, while eastern cities like New York, Baltimore, Philadelphia and Buffalo have opposed it with equal vigor. The prospect of trade being diverted to Canadian lake cities was a fearful one. The U.S. senate has opposed it with equal consistency, continuing right up to May of this year in its refusal to ratify the Great Lakes-St. Lawrence Basin Agreement drawn up in 1941.

The early record of western Canada was one of indifference. British Columbia, of course, had her own ocean and her own port of Vancouver. Alberta leaned in the same direction for obvious reasons. Saskatchewan and Manitoba, with hope in their hearts, and their eyes on the Hudson Bay Route with its thousand-mile shorter haul to Liverpool, have been indifferent to the exciting prospect of a 2,000-mile slide for western grain down a 600-foot drop to the Atlantic. Nevertheless, in 1951-52, a record year, only 7.8 million bushels moved out through Hudson Bay, while 420 million bushels moved eastward by water from the Lakehead.

Most westerners would probably agree that the seaway should tend toward lower grain transportation costs, and should, therefore, benefit the grain producer. To know that the project is moving along, even if very slowly, is, therefore, a source of satisfaction. Canada's decision is also a sign of her industrial growth; and if readier communication between prairie Canada and our domestic and export markets accompanies this growth, we should all be benefited.